GILA COUNTY
REQUEST FOR INVITATION FOR BIDS

RIM TRAIL BRIDGE REPLACEMENT (STRUCTURE NO. 07881)

BID NUMBER 091120

BIDDER'S INFORMATION
CONTRACT DOCUMENTS AND SPECIFICATIONS

BOARD OF SUPERVISORS
Woody Cline, Chairman
Tommie C. Martin, Vice Chairman
Timothy R. Humphrey, Member

COUNTY MANAGER
James Menlove

PUBLIC WORKS DIRECTOR
Steve Sanders

INVITATION FOR BIDS

BID NO. 091120

Sealed bids will be received by **Gila County Procurement, in the Copper Building Conference Room, 1400 East Ash St., Globe, AZ 85501, until 4:00 P.M. (AZ Time), Tuesday, November 17, 2020** for the **Bid No. 091120 - Rim Trail Bridge Replacement, GILA COUNTY, ARIZONA,** in strict accordance with the rules and regulations of the Gila County Procurement Code on file in the office of the Gila County Clerk of the Board, Globe, Arizona. **No bids will be accepted after 4:00 P.M. The Bids will be publicly opened and read aloud at 4:00 P.M., Arizona time, at the location and date listed above via Zoom App.**

All Bids shall be made on the Invitation for Bids forms included in the Contract Documents and shall include all applicable taxes.

Hard copy Plans, Specifications and Contract documents are available and may be obtained from the office of Engineering Services, 928-402-8502, Gila County Public Works Division, 745 North Rose Mofford Way, Globe, AZ. An optional attendance **pre-bid meeting** will take place at 2:00 P.M. on October 28, 2020. This meeting will be conducted online via the Zoom App. Invitations will be sent to the email address on file with the meeting I.D. number and password.

Each Bid submitted, either by hand, United States Postal Service, or other carrier, shall be sealed and plainly marked **BID NO. 091120 -** Rim Trail Bridge Replacement**,** All Bids shall be mailed or delivered to the **Gila County Procurement Department, Attention: Betty Hurst, Contracts Administrator, 1400 East Ash St., Globe, AZ 85501**. Gila County Engineering Services and Board of Supervisors of Gila County will not be responsible for those bids submitted that are not marked appropriately or sent to the wrong address. The prevailing clock shall be the atomic clock in the reception area of the Copper Building.

Contractors are invited to be present at the opening of bids but absence will not be considered cause for disqualification. This will be the only time, until bid award, this information will be revealed.

Contractors shall be responsible for any licenses or permits required by the regulatory agency of the State of Arizona that apply to the performance of this contract.

After the Contractor who is determined to be most advantageous to the county has been selected through the source selection process, negotiations may be conducted for the purpose of developing a recommended Contract for Award.

The Gila County Board of Supervisors reserves the right to reject all bids, or to waive any informality in any bid. All procurement activities conducted by Gila County are in conformance with the rules and regulations of the Gila County Clerk of the Board's office. A copy of the Code is available for review in the Clerk of the Board's office, Globe, AZ.

Dates advertised in the Payson Roundup: **October 13, 2020 and October 20, 2020**

Signed:_____ Date: _____/_____/_____

Woody Cline, Chairman of the Board of Supervisors

Signed: _____ Date: _____/_____/_____

Gila County Attorney's Office

NOTIFICATION TO BIDDERS

BIDDERS ARE HEREBY NOTIFIED:

1. The bidder must supply all the information required by the bid documents. All proposals shall be made on the bid forms prepared by Gila County. The proposal must include the following forms in triplicate and **all with original signatures on hardcopy paper**:

    - Bid Proposal (pages 127 to 129)
    - Bid Schedule (pages 130 to 131)
    - Surety (Bid) Bond (page 132)
    - Qualification & Certification Form (pages 133 to 134)
    - Reference List (pages 135)
    - Affidavit of Non-Collusion (page 136)
    - Subcontracting Certification (page 137)
    - Check List & Addenda Acknowledgment (page 138)

    Failure to include all above listed documents, all with original signatures, may invalidate the bid. Prices shall include all applicable taxes.

2. **Proposal Guaranty** -Proposals shall be accompanied by a certified check, cashier's check or bid bond for 10 percent (10%) of the total contract price bid.

3. **Delivery of Proposal** - Each bid shall be sealed and plainly marked **"Bid No. 091120" - RIM TRAIL BRIDGE REPLACEMENT**, on the outer most envelope or label. If courier is used, bidder shall instruct the courier to deliver the package by**, Tuesday, November 17, 2020**, **4:00 PM**, to the Gila County Procurement Department, Attention: Betty Hurst, Contracts Administrator, at 1400 East Ash, Globe, Arizona 85501. **No bids will be accepted after 4:00 P.M. AZ Time, Tuesday, November 17, 2020. Bids will be opened at 4:00 P.M., Tuesday November 17, 2020.**

4. **Rejection of Bids** -The Owner reserves the right to reject any and all bids, and to waive all or any informalities in the bids.

5. **Plans and Specifications** – A pdf version of plans, specifications and all other documents required by bidders may be obtained by email of bhurst@gilacountyaz.gov. No charge for a pdf version. Bids must be submitted by hardcopy on paper with original signatures.

   A hardcopy version of plans may be obtained with a deposit of $20 per set and $10 for mailing is required. $20 of which will be refunded per set upon return of the documents in good, usable order within seven (7) days of bid award. Payment shall be by check or money order only. No cash or credit cards will be accepted.

   Gila County
   Finance Department
   1350 E. Monroe
   Globe, Arizona 85501

6. **Arizona Contractor's License** - **Prior to submission of bids**, bidders must have a valid Arizona Contractor's License of a type which meets all criteria and requirements to perform the work as specified in the contract documents in accordance with the **Arizona State Registrar of Contractors**.

7. **Pre-bid Meeting** – An optional attendance **pre-bid meeting** will take place at 2:00 P.M. on October 28, 2020. This meeting will be conducted online via the Zoom App. Invitations will be sent to the email addresses on file with the meeting I.D. number and password.

8. **Bid Opening Information** – Contractors are invited to be present at the opening of bids but absence will not be considered cause for disqualification. This will be the only time, until bid award, this information will be revealed. A Zoom meeting will be set up online via the Zoom App. prior to the bid opening and those that wish to attend may contact Betty Hurst via email.

9. **Request for Clarifications**
   Requests for clarification shall be made to Betty Hurst, Contracts Administrator at bhurst@gilacountyaz.gov in writing (phone: 928-402-4355, fax: 928-402-4386) submitted no later than 4:00 P.M., AZ time, on Monday, November 9, 2020**.** A response will be issued to all plan holders no later than 4:00 P.M., AZ time, on Thursday, November 12, 2020.

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APPENDICES

SPECIAL PROVISIONS FOR
RIM TRAIL BRIDGE REPLACEMENT (STRUCTURE NO. 07881)

The proposed work is located in the northern part of unincorporated Gila County, approximately 12 miles north of the Town of Payson. The work for this improvement project will be performed on Bridge Road. The work consists of removing an existing railcar bridge and constructing a new bridge crossing at the East Verde River including roadway excavation, embankment construction, grading, furnishing and placing aggregate base, asphaltic concrete pavement and other incidental work as shown on the project plans (see **APPENDIX C**) and as described in these Special Provisions.

SPECIFICATIONS:

The plans and these Special Provisions reference certain Standard Specifications and Standard Details developed by the Maricopa Association of Governments (MAG) and the Arizona Department of Transportation (ADOT). The following separate documents shall be used accordingly:

Arizona Department of Transportation, Standard Specifications for Road and Bridge Construction, Edition of 2008.
Arizona Department of Transportation, Construction Standard Drawings, 2012 edition.
Maricopa Association of Governments, Uniform Standard Specifications for Public Works Construction, 2020 Edition.
Maricopa Association of Governments, Uniform Standard Details for Public Works Construction, 2020 Edition.

Wherever reference in the above cited Standard Specifications is made to MAG or ADOT it shall refer to Owner as defined in Section 101-02 herein these Special Provisions.

In the event of any conflict between the plans and Standard Specifications, the plans shall prevail. In the event of any conflict between these Special Provisions and the plans or Standard Specifications, these Special Provisions shall prevail.

GENERAL REQUIREMENTS:

CONSTRUCTION WATER

The Contractor shall obtain an adequate water supply and furnish all construction water for the work specified herein. There will be no separate measurement or direct payment for obtaining, furnishing and applying construction water. The cost being considered as included in the total cost of the contract.

FIRE PREVENTION

If during the project fire restrictions are implemented, the Contractor shall be responsible for compliance with Tonto National Forest and Gila County fire prevention measures.

CONTRACTOR'S YARD

The Owner shall provide land, right-of-way, and easements for all work specified in this contract, except that the Contractor shall provide additional land if required for the erection of temporary construction facilities for storage of his material, together with right of access to same. The Contractor shall not enter or occupy with men, tools, equipment or materials, any private property without written consent of the Owner thereof.

The Contractor shall submit at the preconstruction conference a map showing the proposed location of his Contractor's yard. The location of the yard is subject to the approval of the Owner. The Contractor is responsible for the security of his yard and the equipment and materials stored at the yard or construction site. Damage, theft, vandalism, or loss of such equipment or materials is the responsibility of the Contractor. The Contractor will not be compensated for replacement, repair, or refusal of materials by the Engineer damaged by vandalism or theft. The Contractor will take whatever measures are necessary to secure his yard, equipment, and materials. Security measures such as yard fences, security guards, locks, chains, etc. are incidental to the work for this project.

See Section 901 Mobilization for additional information.

CONTRACT TIME

Contractor shall complete all project work, including material procurement, within two hundred and forty (280) calendar days from the date the Contractor receives the Notice to Proceed from the County.

The Contractor shall not start construction work before 03/01/2021.

TEMPORARY CONSTRUCTION EASEMENTS:

The Department has acquired temporary construction easements (TCE) where needed to complete the work. The Contractor shall not disturb existing improvements within the TCE which are not in conflict with the project. The Contractor shall keep his operations within the limits of the temporary fence and TCE as delineated on the project plans. The Contractor shall restore the area within the TCE to its original condition when it is no longer needed for construction. No direct measurement or payment will be made for the restoration of the TCE area, the cost being considered as included in the price bid for the contract items.

VERIFICATION OF EXISTING FEATURES:

The locations and dimensions of existing roadway features shown on the plans are based on as-built plans, aerial photographs, and field surveys. It shall be the Contractor's responsibility to field-verify the information given on the plans wherever that information affects the new work.

Significant differences between the measured and plan information shall be submitted to the Engineer prior to proceeding with the work. Minor adjustments to proposed improvements to the extent they are required to match existing construction and do not affect the disposition of other project features, will not require review or approval by the Engineer.

ACCESS REQUIREMENTS:

The Contractor shall maintain access to all driveways during their hours of operations. Access to adjacent private driveways shall be provided during all non-working hours. Where property has more than one point of access, no more than one access may be restricted or closed at a time.

The Contractor shall coordinate through the Engineer to inform all property and business operators that may be affected by any restrictions at least 72 hours in advance as a result of construction activities of the scope of work, duration of construction activities, and the possible interference with their day to day activities. The Contractor shall coordinate with the Engineer to communicate any business or residential access restrictions in writing with the affected businesses or residents at least one week in advance of the restriction.

The Contractor shall coordinate with the Engineer to make a good faith effort to make personal contact with affected property owners or business operators. If primary access cannot be maintained, the Contractor shall provide an alternative that will be pre-determined with the business prior to instituting the closure or restriction. If the property owner or business operator cannot be contacted, then the Engineer shall be the sole judge for the approval of any closures or restrictions.

EROSION / SEDIMENT CONTROL AND STORMWATER QUALITY:

The Contractor shall give attention to the impact of the construction operations upon natural landscape, and shall take care to maintain natural surroundings undamaged at no additional cost to the Owner. The Contractor shall minimize soil disturbance by implementing Low Impact Development (LID) methods to control erosion as close as possible to the source of disturbance.

The Contractor shall use all means necessary to significantly reduce impacts by staging**/**stockpiling and carrying out project activities in such a way as to curtail**/**contain the potential for erosion and discharge of pollutants from the project site.

Fine particles including minor miscellaneous dirt, dust, rock fragments or construction debris that may be associated with stormwater discharges into catch basins shall be prevented**/** controlled to maximum extent practicable (MEP) at no additional cost to the Owner.

When needed**,** the Contractor shall apply perimeter control Best Management Practices (BMPs) (Wattles) on the down-slope perimeter of construction disturbed areas**,** unpaved on-site staging, and stockpiling at no additional cost to the Owner. To prevent sediment from bypassing the wattle ends, the end of the wattles shall be turned up the slopes for a minimum of 3 feet to form an “L” shape. No portion of the wattle shall be installed within 6 feet from the edge of the pavement. Wattles shall not be placed over any driveways or access roads that intersect with the roadway mainline. Additionally, wattles shall **not** be placed on the flow path of inlets and outlets of drainage facilities. Perimeter control BMPs (wattles) shall be installed in accordance with the manufacturer’s instructions. The Contractor shall adjust the field layout of erosion control and sediment prevention elements as approved by the Engineer. The Contractor shall also observe

ADOT traffic safety standards when installing perimeter control BMPs in the traffic clear zone/recovery area.

During construction the contactor shall minimize vehicular travel or equipment operation on the unpaved soil areas to MEP. The Contractor shall develop and implement procedures to avoid earth disturbance, soil compaction, and damage to vegetative cover from vehicular travel or equipment operation during inclement weather or unsuitable soil conditions. The Contractor shall stabilize all construction disturbed soil areas at no additional cost to the Owner.

No grout, concrete or wash water shall be disposed within the project limits or its vicinity. The Contractor shall install concrete washout BMP as needed and under the direction of the Engineer at no additional cost to the Owner. This BMP shall include proper disposal of all excess grout, concrete, and wash water.

All Rock Mulch and Rock Riprap used for erosion/sediment control shall be placed and shaped as shown on the BMPs' plans/details. Rock Mulch/Riprap materials shall be fractured/crushed rocks in angular shape and as defined in the Section 810 of the ADOT Standard Specifications and these special provisions. Natural river-run materials, especially the rounded natural river rocks/cobblestones are not acceptable.

The Contractor shall not use unpaved areas within the project limits for staging or stockpiling without first installing erosion control and sediment prevention BMPs and as directed and approved by the Engineer. Staging and stockpiling on the unpaved areas shall be avoided to MEP.

EROSION/SEDIMENT CONTROL BEYOND THE PROJECT LIMITS:

The Contractor shall apply erosion/sediment and water quality protection BMPs as required by the commercial material source owner and environmental permit standard at no additional cost to the Owner.

The Contractor shall apply erosion/sediment and water quality protection BMPs for off-project-site staging, material storage, maintenance yard, disposal spots, and stockpiling areas as required by the facility owner and environmental permit standard at no additional cost to the Owner.

When needed, the Contractor shall only use off-project-site staging, material storage, maintenance yard, disposal spots, and stockpiling areas covered with existing environmental permit for operation.

ENVIRONMENTAL COMMITMENTS:

The following environmental mitigation measures are not subject to change without written approval from the Owner.

- If vegetation clearing will occur during the migratory bird breeding season (March 1 - August 31), the Contractor shall avoid any active bird nests. If the active nests cannot be avoided, the Contractor shall notify the Gila County Project Manager to evaluate the situation. During the non-breeding season (September 1 - February 28) vegetation removal is not subject to this restriction.

- If suspected hazardous materials are encountered during construction, work shall cease at that location and the Contractor will be notified. The Contractor will contact the Gila County Project Manager immediately, and make arrangements for assessment, treatment, and disposal of those materials.

- If previously unreported cultural resources are encountered during ground disturbing activities, all work must immediately cease within 30 meters (100 feet) until a qualified archaeologist has documented the discovery and evaluated its eligibility for the Arizona or National Register of Historic Places in consultation with Gila County, the Arizona State Museum, the State Historic Preservation Office, and Tribes, as appropriate. Work must not resume in this area without approval of Gila County.

- If human remains are encountered during ground-disturbing activities, all work must immediately cease within 30 meters (100 feet) of the discovery and the area must be secured. The Arizona State Museum burial coordinator, Gila County, State Historic Preservation Office, and appropriate Tribes must be notified of the discovery. All discoveries will be treated in accordance with Arizona Revised Statute (A.R.S. § 41-865), and work must not resume in this area without authorization from the Arizona State Museum and Gila County.

SECTION 101 DEFINITIONS AND TERMS:

101-01 BLANK

101-02 DEFINITIONS:

Whenever the following terms are used in these specifications, in the contract, in any documents or other instruments pertaining to construction where these specifications govern, the intent and meaning shall be interpreted as follows:

MAG. Maricopa Association of Governments.

ADOT. Arizona Department of Transportation

ADOT STANDARD SPECIFICATIONS. Arizona Department of Transportation Standard Specifications for Road and Bridge Construction, Edition of 2008.

ADVERTISEMENT. A public announcement, as required by local law, inviting bids for work to be performed and materials to be furnished.

ASTM. The American Society for Testing and Materials.

AASHTO. The American Association of State Highway and Transportation Officials.

AWARD. The acceptance, by the Owner, of the successful bidder's proposal.

BIDDER. Any individual, partnership, firm, or corporation, acting directly or through a duly authorized representative, who submits a proposal for the work contemplated.

BOARD OF SUPERVISORS. The Gila County Board of Supervisors acting under the authority of the laws of the State of Arizona.

CALENDAR DAY. Every day shown on the calendar.

CERTIFIED FLAGGER. An individual who has been trained and certified by the Arizona Department of Transportation, an Arizona County or Municipal agency, the Federal Highway Administration, or the Highway agency of another state, to control traffic in a construction zone. Individuals certified outside Arizona must also exhibit familiarity with Arizona laws.

CHANGE ORDER. A written order by the Engineer or Owner to the Contractor covering changes in the plans, specifications, or proposal quantities and establishing the basis of payment and contract time adjustment, if any, for the work affected by such changes. The work, covered by a change order, shall be within the scope of the contract.

CONSTRUCTION LIMITS. Construction limits shall be defined as that area of the public right-of-way, easement or area shown on the construction plans to be disturbed as a part of the contract for this project.

CONTRACT. The written agreement covering the work to be performed. The awarded contract shall include, but is not limited to: the Advertisement; the Contract form; the Proposal; the

Performance Bond; the Payment Bond; any required insurance certificates; the Specifications; the Plans; and any addenda issued to bidders.

CONTRACT ITEM (PAY ITEM). A specific unit of work for which a price is provided in the contract. All pay items on this contract will be measured in English units.

CONTRACT TIME. The number of calendar days or working days, stated in the proposal, allowed for completion of the contract, including authorized time extensions. If a calendar date of completion is stated in the proposal, in lieu of a number of calendar or working days, the contract shall be completed by that date.

CONTRACTOR. The individual, partnership, firm, or corporation primarily liable for the acceptable performance of the work contracted and for the payment of all legal debts pertaining to the work who acts directly or through lawful agents or employees to complete the contract work.

CONTRACTOR'S ENGINEER. The Arizona Registered Professional Civil Engineer, individual, partnership, firm, or corporation, duly authorized by Contractor to be responsible for engineering supervision, quality control and certification of the Contract work.

DEPARTMENT. The term Department in the ADOT Standard Specifications and supplements references the Arizona Department of Transportation. Department shall reference OWNER for this contract work.

ENGINEER. See OWNER.

EQUIPMENT. All machinery, together with the necessary fuel and supplies for upkeep and maintenance including, but not limited to, all tools and apparatus necessary for the proper construction and acceptable completion of the work.

EXTRA WORK. An item of work not provided for in the awarded contract as previously modified by change order or supplemental agreement, but which is found by the Owner's Engineer to be necessary to complete the work within the intended scope of the contract as previously modified.

INSPECTOR. An authorized representative of the Owner's Engineer assigned to make all necessary quality assurance inspections and/or tests of the work performed or being performed, or of the materials furnished or being furnished by the Contractor.

INTENTION OF TERMS. Whenever, in these specifications or on the plans, the words "directed," "required," "permitted," "ordered," "designated," "prescribed," or words of like import are used, it shall be understood that the direction, requirement, permission, order, designation, or prescription of the Owner's Engineer is intended; and similarly, the words, "approved," "acceptable," "satisfactory," or words of like import, shall mean approved by, or acceptable to, or satisfactory to the Owner's Engineer, subject in each case to the final determination of the Owner.

Any reference to a specific requirement of a numbered paragraph of the contract specifications or a cited standard shall be interpreted to include all general requirements of the entire section, specification item, or cited standard that may be pertinent to such specific reference.

LABORATORY. A testing laboratory as may be designated or approved by the Owner’s Engineer to test construction materials and products.

LABOR AND MATERIALS BOND. The approved form of security furnished by the Contractor and his surety as a guaranty that he will pay in full all bills and accounts for materials and labor used in the construction of the work. Also known as Payment Bond.

MAJOR AND MINOR CONTRACT ITEMS. A major contract item shall be any item that is listed in the proposal, the total cost of which is equal to or greater than 10 percent of the total amount of the awarded contract. All other items shall be considered minor contract items.

MATERIALS. Any substance specified for use in the construction of the contract work.

MUTCD. The Manual on Uniform Traffic Control Devices for Streets and Highways, U.S. Department of Transportation, Federal Highway Administration, 2003 Edition, with current revisions.

NOTICE TO PROCEED. A written notice to the Contractor to begin the actual contract work on a previously agreed to date. If applicable, the Notice to Proceed shall state the date on which the contract time begins.

OWNER. The term Owner shall mean the contracting agency signatory to the contract being Gila County or the “County”.

OWNER'S ENGINEER. The individual, partnership, firm, or corporation duly authorized by the Owner to be responsible for engineering supervision of the contract work and acting directly or through an authorized representative.

PAVEMENT. The combined surface, base course, and sub base course, if any, considered as a single unit.

PERFORMANCE BOND. The approved form of security furnished by the Contractor and his surety as a guaranty that the Contractor will complete the work in accordance with the terms of the contract.

PLANS. The official drawings or exact reproductions, approved by the Owner's Engineer, which show the location, character, dimensions and details of the work to be done and which are to be considered as a part of the contract, supplementary to the specifications.

PROJECT. The agreed scope of work for accomplishing specific tasks.

PROPOSAL (BID, BID PROPOSAL). The written offer of the bidder (when submitted on the approved proposal form) to perform the contemplated work and furnish the necessary materials in accordance with the provisions of the plans and specifications.

PROPOSAL GUARANTY. The security furnished with a proposal to guarantee that the bidder will enter into a contract if his proposal is accepted by the Owner.

SPECIFICATIONS. A part of the contract containing the written directions and requirements for completing the contract work. Standards for specifying materials or testing which are cited in the contract specifications by reference shall have the same force and effect as if included in the contract physically.

STRUCTURES. Facilities such as bridges, culverts, catch basins, inlets, retaining walls, cribbing, storm and sanitary sewer lines, water lines, underdrains, electrical ducts, manholes, handholes, lighting fixtures and bases, transformers, flexible and rigid pavements, navigational aids, buildings, vaults, and other manmade features that may be encountered in the work and not otherwise classified herein.

SUBGRADE. The soil that forms the pavement foundation.

SUPERINTENDENT. The Contractor's authorized representative who is present on the work site during progress, and is authorized to receive and fulfill instructions from the Owner's Engineer, and who shall supervise and direct the construction.

SUPPLEMENTAL AGREEMENT. A written agreement between the Contractor and the Owner covering: 1) work that would increase or decrease the total dollar amount of the awarded contract, or any major contract item, by more than 25 percent, such increased or decreased work being within the scope of the originally awarded contract, or 2) work that is not within the scope of the originally awarded contract.

SURETY. The corporation, partnership, or individual, other than the Contractor, executing payment or performance bonds which are furnished to the Owner by the Contractor.

WORK. The furnishing of all labor, materials, tools, equipment and incidentals necessary or convenient to the Contractor's performance of all duties and obligations imposed by the contract, plans, and specifications.

WORK DAY (WORKING DAY). A work day shall be any day other than a legal holiday, Saturday, or Sunday on which the normal working forces of the Contractor may proceed with regular work for at least 6 hours toward completion of the contract, unless work is suspended for causes beyond the Contractor's control. Saturdays, Sundays and holidays on which the Contractor's forces engage in regular work, after obtaining written permission from the Owners Engineer, which requires the presence of an inspector, will be considered and applied as working days.

WORK WEEK. A work week shall consist of forty (40) hours beginning on Sunday and ending on Saturday. Should the Contractor engage in work exceeding the forty (40) hour work week which requires the presence of an inspector, as determined by the Owners Engineer, the Contractor shall reimburse the County for all overtime hours.

OVERTIME HOURS. Any and all hours worked which are other than a normal work week. Contractor must give prior written notification to the Owners Engineer, for any and all overtime hours to be worked. It shall be at the Owner's discretion to provide an inspector at the worksite to ensure compliance during any and all overtime hours worked.

OVERTIME PAY. Any and all pay resulting from overtime hours worked.

OWNER'S INSPECTOR'S OVERTIME PAY. Any and all pay to the Owner's Inspector for overtime hours worked resulting from the Contractor having received approval for overtime hours. The inspector's overtime pay shall be the actual monies paid by the County and shall be reimbursed by the Contractor to the County. Certified payrolls for the Owner's Inspector's

Overtime will be submitted to the Contractor. The cost for the Owner's Inspector's Overtime Pay will be deducted from the Contractor's billing.

SUBSTANTIAL COMPLETION. Per Section 105.19 of the ADOT Standard Specifications unless modified herein.

SECTION 102 BIDDING REQUIREMENTS AND CONDITIONS

102-01 THRU 102-03 BLANK

102-04 CONTENTS OF PROPOSAL FORMS:

The Owner shall furnish bidders with proposal forms. All papers bound with or attached to the proposal forms are necessary parts of the proposal. The proposal submitted by the bidder must include the entire bid packet.

The plans, specifications, and other documents designated in the proposal whether attached or not to the proposal are considered as a part of and included with the proposal.

102-05 ISSUANCE OF PROPOSAL FORMS:

The Owner reserves the right to refuse to issue a proposal form to a prospective bidder should such bidder be in default for any of the following reasons:

(a) Failure to comply with any prequalification regulations of the Owner, if such regulations are cited, or otherwise included, in the proposal as a requirement for bidding.
(b) Failure to pay, or satisfactorily settle, all bills due for labor and materials on former contracts in force (with the Owner) at the time the Owner issues the proposal to a prospective bidder.
(c) Contractor default under previous contracts with the Owner.
(d) Unsatisfactory work on previous contracts with the Owner.

102-06 INTERPRETATION OF ESTIMATED PROPOSAL QUANTITIES:

An estimate of quantities of work to be done and materials to be furnished under these specifications is given in the proposal. It is the result of careful calculations and is believed to be correct. It is given only as a basis for comparison of proposals and the award of the contract. The Owner does not expressly or by implication agree that the actual quantities involved will correspond exactly therewith; nor shall the bidder plead misunderstanding or deception because of such estimates of quantities, or of the character, location, or other conditions pertaining to the work. **Payment to the Contractor will be made only for the actual quantities of work performed or materials furnished in accordance with the plans and specifications.** It is understood that the quantities may be increased or decreased as hereinafter provided in the subsection titled ALTERATION OF WORK AND QUANTITIES of Section 104-02(A) without in any way invalidating the unit bid prices.

102-07 EXAMINATION OF PLANS, SPECIFICATIONS, AND SITE OF WORK:

The bidder is expected to carefully examine the site of the proposed work, the proposal, plans, specifications, and contract forms. He shall satisfy himself as to the character, quality, and quantities of work to be performed, materials to be furnished, and as to the requirements of the proposed contract. The submission of a proposal shall be prima facie evidence that the bidder has made such examination and is satisfied as to the conditions to be encountered in performing the work and as to the requirements of the proposed contract, plans and specifications.

If any person contemplating submitting a bid for the proposed contract is in doubt as to the true meaning of any part of the plans, specifications, or other proposed contract documents, or finds discrepancies in, or omissions from the drawings or specifications, he may submit to the Owner's Engineer a written request for an interpretation or correction thereof. The person submitting the request will be responsible for its prompt delivery. Any interpretation or correction of the contract

documents will be made only by addendum duly issued and a copy of such addendum will be made or delivered to each person having received a set of such documents. The Owner will not be responsible for any other explanations or interpretations of the contract documents.

Any addenda or bulletins issued during the time of bid preparations, forming a part of the contract documents furnished the bidder for the preparation of his bid, shall be covered in the bid, and shall be made a part of the contract.

102-08 PREPARATION OF PROPOSAL:
The bidder shall submit his proposal on the forms furnished by the Owner. No forms shall be detached from the bid packet. The proposal must include the entire bid packet. All blank spaces in the proposal forms must be correctly filled in where indicated for each and every item for which a quantity is given. The bidder shall state the price (written in ink or typed) in NUMERALS for which he proposes to do each pay item furnished in the proposal. The TOTAL AGGREGATE AMOUNT bid shall be stated in both WORDS and NUMERALS. A minimum of one (1) original and two (2) copies all with original signatures shall be submitted.

The bidder shall sign his proposal correctly and in ink. If the proposal is made by an individual, his name and mailing address must be shown. If made by a partnership, the name and mailing address of each member of the partnership must be shown. If made by a corporation, the person signing the proposal shall give the name of the state under which the laws of the corporation were chartered and the name, titles, and business address of the president, secretary, and the treasurer. Anyone signing a proposal as an agent shall file evidence of his authority to do so and that the signature is binding upon the firm or corporation.

102-09 BLANK

102-10 IRREGULAR PROPOSALS:
Proposals shall be considered irregular for the following reasons:

(a) If the proposal is on a form other than that furnished by the Owner, or if the Owner's form is altered, or if any part of the proposal form is detached.
(b) If there are unauthorized additions, conditional or alternate pay items, or irregularities of any kind which make the proposal incomplete, indefinite, or otherwise ambiguous.
(c) If the proposal does not contain a unit price for each pay item listed in the proposal, except in the case of authorized alternate pay items, for which the bidder is not required to furnish a unit price.
(d) If the proposal contains unit prices that are obviously unbalanced.
(e) If the proposal is not accompanied by the proposal guaranty specified by the Owner.

The Owner reserves the right to reject any irregular proposal and the right to waive technicalities if such waiver is in the best interest of the Owner and conforms to local laws and ordinances pertaining to the letting of construction contracts.

102-11 DELIVERY OF PROPOSAL:
Each proposal submitted shall be placed in a sealed envelope plainly marked with the project number, name of project, and name and business address of the bidder on the outside. When sent by mail, preferably registered, or courier, the sealed proposal, marked as indicated above, should be enclosed in an additional envelope. No proposal will be considered unless received at

the place specified in the advertisement before the time specified. Proposals received after the specified time shall be returned to the bidder unopened.

102-12 PROPOSAL GUARANTY:
Each proposal shall be accompanied by a certified check, cashier's check or surety bond for ten percent (10%) of the amount of the bid included in the proposal as a guarantee that the Contractor will enter into a contract to perform the proposed work in accordance with the plans and specifications.

102-13 WITHDRAWAL OR REVISION OF PROPOSALS:
A bidder may withdraw or revise (by withdrawal of one proposal and submission of another) a proposal provided that the bidder's request for withdrawal is received by the Owner in writing or by telegram before the time specified for receipt of bids. Revised proposals must be received at the place specified in the advertisement before the time specified for receipt of bids.

102-14 BLANK

102-15 PUBLIC OPENING OF PROPOSALS:
Proposals shall be opened and read publicly at the time and place specified in the advertisement. Bidders, their authorized agents, and other interested persons are invited to attend.

Proposals that have been withdrawn (by written or telegraphic request) or received after the time specified shall be returned to the bidder unopened.

This will be the only time, until bid award, this information will be revealed.

102-GC1 DISQUALIFICATION OF BIDDERS:
A bidder shall be considered disqualified for any of the following reasons:

(a) Submitting more than one proposal from the same partnership, firm, or corporation under the same or different name.
(b) Evidence of collusion among bidders. Bidders participating in such collusion shall be disqualified as bidders for any future work of the Owner until any such participating bidder has been reinstated by the Owner as a qualified bidder.
(c) If the bidder is considered to be in "default" for any reason specified in the subsection titled ISSUANCE OF PROPOSAL FORMS of Section 102-05.
(d) Failure to submit all required official bid forms.

102-GC2 PROTESTS:
Only other bidders have the right to protest. A protest of a proposed award or of an award must be filed within ten (10) days after the bid award by the Gila County Board of Supervisors and must be sent to the Board of Supervisors. A protest must be in writing and must include:

(a) Name, address and telephone number of the protester.
(b) Signature of the protester or its representative, and evidence of authority to sign.
(c) Identification of the contract and the solicitation or contract number.
(d) Detailed statement of the legal and factual grounds of protest including copies of relevant documents.
(e) The form of relief requested.

All protests shall be sent to the attention of the Gila County Board of Supervisors, 1400 E. Ash Street, Globe, Arizona 85501.

SECTION 103 AWARD AND EXECUTION OF CONTRACT

103-01 CONSIDERATION OF PROPOSALS:

After the proposals are publicly opened and read, they will be compared on the basis of the summation of the products obtained by multiplying the estimated quantities shown in the proposal by the unit bid prices. If a bidder's proposal contains a discrepancy between unit bid prices written in words and unit bid prices written in numbers, the unit price written in words, unless obviously incorrect, shall govern.

Until the award of a contract is made, the Owner reserves the right to reject a bidder's proposal for any of the following reasons:

(a) If the proposal is irregular as specified in the subsection titled IRREGULAR PROPOSALS of Section 102-10.
(b) If the bidder is disqualified for any of the reasons specified in the subsection titled DISQUALIFICATION OF BIDDERS of Section 102-GC1.

In addition, until the award of a contract is made, the Owner reserves the right to reject any or all proposals; waive technicalities, if such waiver is in the best interest of the Owner and is in conformance with applicable state and local laws or regulations pertaining to the letting of construction contracts; advertise for new proposals; or proceed with the work otherwise. All such actions shall promote the Owner's best interests.

103-02 THRU 103-03 BLANK

103-04 AWARD OF CONTRACT:

The award of contract, if it is to be awarded, shall be made within sixty (60) calendar days of the date specified for publicly opening proposals, unless otherwise specified herein.

This contract will be awarded to the responsible bidder whose bid conforms to the invitation and whose bid is the most advantageous to the Owner concerning price, conformity to the specifications and other factors.

103-05 CANCELLATION OF AWARD:

The Owner reserves the right to cancel the award without liability to the bidder, except return of proposal guaranty, at any time before a contract has been fully executed by all parties and is approved by the Owner in accordance with the subsection titled APPROVAL OF CONTRACT of Section 103-GC1.

103-06 RETURN OF PROPOSAL GUARANTY:

All proposal guaranties, except those of the two (2) lowest bidders, will be returned immediately after the Owner has made a comparison of bids as hereinbefore specified in the subsection titled CONSIDERATION OF PROPOSALS of Section 103-01. Proposal guaranties of the two lowest bidders will be retained by the Owner until such time as an award is made, at which time the unsuccessful bidder's proposal guaranty will be returned as soon as the Owner receives the contract bonds as specified in the subsection titled REQUIREMENTS OF CONTRACT BONDS of Section 103-07.

103-07 REQUIREMENTS OF CONTRACT BONDS:

At the time of the execution of the contract, the successful bidder shall furnish the Owner surety bond or bonds which have been fully executed by the bidder and his surety guaranteeing the

performance of the work and the payment of all legal debts that may be incurred by reason of the Contractor's performance of the work. The surety and the form of the bond or bonds shall be acceptable to the Owner. Unless otherwise specified in this subsection, the surety bond or bonds shall be in a sum equal to the full amount of the contract. All bonds shall conform to the requirements of A.R.S. §34-222 and §34-223. §

103-08 EXECUTION OF CONTRACT:

The successful bidder shall sign (execute) the necessary agreements for entering into the contract and return such signed contract to the Owner, along with the fully executed surety bond or bonds specified in the subsection titled REQUIREMENTS OF CONTRACT BONDS of Section 103-07, the Contractor's Statement of Insurance and an original Certificate of Insurance conforming with the requirements of Section 107-14, within 10 calendar days from the date mailed or otherwise delivered to the successful bidder. If the contract is mailed, special handling is recommended.

103-GC1 APPROVAL OF CONTRACT:

Upon receipt of the contract and contract bond or bonds that have been executed by the successful bidder, the Owner shall complete the execution of the contract in accordance with local laws or ordinances, and return the fully executed contract to the Contractor. Delivery of the fully executed contract to the Contractor shall constitute the Owner's approval to be bound by the successful bidder's proposal and the terms of the contract. **This agreement is subject to cancellation pursuant to A.R.S. §38-511.**

103-09 FAILURE TO EXECUTE CONTRACT:

Failure of the successful bidder to execute the contract as specified in the subsection titled EXECUTION OF CONTRACT of Section 103-08 and furnish an acceptable surety bond or bonds within the 10-calendar-day period specified in the subsection titled REQUIREMENTS OF CONTRACT BONDS of Section 103-07 shall be just cause for cancellation of the award and forfeiture of the proposal guaranty, not as a penalty, but as liquidation of damages to the Owner.

SECTION 104 SCOPE OF WORK:

104-01 INTENT OF CONTRACT:

The intent of the contract is to provide for construction and completion, in every detail, of the work described. It is further intended that the Contractor shall furnish all labor, materials, equipment, tools, and supplies required to complete the work in accordance with the plans, specifications, and terms of the contract.

104-02(A) ALTERATION OF WORK AND QUANTITIES:

The Owner reserves and shall have the right to make such alterations in the work as may be necessary or desirable to complete the work originally intended in an acceptable manner. Unless otherwise specified herein, the Owner's Engineer shall be and is hereby authorized to make such alterations in the work as may increase or decrease the originally awarded contract quantities, provided that the aggregate of such alterations does not change the total contract cost or the total cost of any major contract item by more than twenty-five percent (25%) (total cost being based on the unit prices and estimated quantities in the awarded contract). Alterations which do not exceed the twenty-five percent (25%) limitation shall not invalidate the contract nor release the surety, and the Contractor agrees to accept payment for such alterations as if the altered work had been a part of the original contract. These alterations which are for work within the general scope of the contract shall be covered by "Change Orders" issued by the Owner's Engineer. Change order for altered work shall include extensions of contract time where, in the Owner's Engineer's opinion, such extensions are commensurate with the amount and difficulty of added work.

Should the aggregate amount of altered work exceed the twenty-five percent (25%) limitation hereinbefore specified, such excess altered work shall be covered by supplemental agreement. If the Owner and the Contractor are unable to agree on a unit adjustment for any contract item that requires a supplemental agreement, the Owner reserves the right to terminate the contract with respect to the item and make other arrangements for its completion.

All supplemental agreements shall require consent of the Contractor's surety and separate performance and payment bonds.

104-02(B) OMITTED ITEMS:

The Owner's Engineer may, in the Owner's best interest, omit from the work any contract item, except major contract items. Major contract items may be omitted by a supplemental agreement. Such omission of contract items shall not invalidate any other contract provision or requirement.

Should a contract item be omitted or otherwise ordered to be non-performed, the Contractor shall be paid for all work performed toward completion of such item prior to the date of the order to omit such item. Payment for work performed shall be in accordance with the subsection titled PAYMENT FOR OMITTED ITEMS of Section 109-05.

104-02(C) EXTRA WORK:

Should acceptable completion of the contract require the Contractor to perform an item of work for which no basis of payment has been provided in the original contract or previously issued change orders or supplemental agreements, the same shall be called EXTRA WORK. Extra work that is within the general scope of the contract shall be covered by written change order. Change orders for such extra work shall contain agreed unit prices for performing the change order work in accordance with the requirements specified in the order, and shall contain any adjustment to

the contract time that, in the Owner's Engineer's opinion, is necessary for completion of such extra work.

When determined by the Owner's Engineer to be in the Owner's best interest, he may order the Contractor to proceed with extra work by force account as provided in the subsection titled PAYMENT FOR EXTRA AND FORCE ACCOUNT WORK of Section 109-04.

Extra work that is necessary for acceptable completion of the project, but is not within the general scope of the work covered by the original contract, shall be covered by an agreement as hereinbefore defined as a SUPPLEMENTAL AGREEMENT.

Any claim for payment of extra work that is not covered by written agreement (change order or supplemental agreement) shall be rejected by the Owner.

104-03 **DISPUTE & RESOLUTION:**

- **Initial Notification & Dispute of Resolution:** As required by these Specifications or any time the Contractor believes the action or decision of the County, lack of action by the County, or for some other reason will result in or necessitate the revision of the Contract, the County Engineer must be notified immediately. If within two (2) working days the identified issue has not been resolved between the Contractor and the County, the Contractor shall provide a written notice. At a minimum, the written notice shall provide a description of the nature of the issue, the time and date the problem was discovered, and if appropriate, the location of the issue. After initial written notice has been provided, the County Engineer will proceed in accordance with MAG Uniform Standard Specifications Subsection 104.2. In addition to proceeding in accordance with Subsection 104.2, the Contractor and the County must make every effort to resolve the issue identified in the initial notice. Only if the issue cannot be quickly resolved will it be necessary to proceed to the next step in accordance with MAG Specs Subsection 110.2.2 Dispute Resolution.
- **Process for Dispute Resolution:** If the Contractor rejects the decision of the County according to Subsection 110.2.2(B), the Contractor may begin the Administration Process to resolve the dispute. All dispute resolutions shall be handled in accordance with MAG Spec's Subsection 110.3, Administrative Process for Dispute Resolution.

The administrative process for the resolution of disputes is sequential in nature and is composed of the following levels: Level I (County Project Manager), Level II (County Engineer, Level III (Public Works Director).

The provision set forth in Subsection 110.2 is a contractual obligation assumed by the Contractor in executing the Contract. It is understood that the Contractor will be forever barred from recovering against the County if the Contractor fails to give notice of any act or failure to act, by the County, or the happening of any event, thing, or occurrence, in accordance with Subsection 104.2, Alteration of Work.

Dispute Review Board: If the Dispute Review Board is utilized as prescribed in Subsection 110.3.3, the County Engineer shall be notified within thirty (30) days after the Level III Representative decision. The Dispute Review Board is a three (3) member board independent of the parties involved in the issue. The County and Contractor shall each select a member for this board. The third (3rd) member shall be a mutually agreed upon independent member. This Review Board must be selected within fourteen (14) calendar days after notice to the Level III Representative. Each member shall agree to impartially serve the County and Contractor. Fees and expenses of the Board Members are to be shared equally by the County and the Contractor.

The Dispute Review Board shall meet within thirty (30) days of the selection of the board, unless, by mutual agreement, another date is selected. The scope of the Dispute Review Board shall be restricted and limited to the matters originally presented to the Level III Representative for decision or determination and shall include no other matters. The Board shall consider and evaluate the dispute and render a written decision that assigns financial responsibilities and allocates adjustments in the contact time, if applicable, within seven (7) calendar days after the meeting. The decision of the Dispute Review Board will be final.

104-04 MAINTENANCE OF TRAFFIC:

It is the explicit intention of the contract that the safety of all traffic, vehicular and pedestrian, as well as the Contractor's equipment and personnel, is the most important consideration.

With respect to his own operations and the operations of all his subcontractors, the Contractor shall provide marking, lighting, and other acceptable means of identifying personnel, equipment, vehicles, storage areas, and any work area or condition that may be hazardous to the operation of all traffic, vehicular and pedestrian.

When the contract requires the maintenance of vehicular traffic on an existing road, street, or highway during the Contractor's performance of work that is otherwise provided for in the contract, plans, and specifications, the Contractor shall keep such road, street, or highway open to all traffic and shall provide such maintenance as may be required to accommodate traffic. The Contractor shall furnish, erect, and maintain barricades, warning signs, flaggers, and other traffic control devices in reasonable conformity with the MUTCD, unless otherwise specified herein. The Contractor shall also construct and maintain in a safe condition any temporary connections necessary for ingress to and egress from abutting property or intersecting roads, streets or highways. Unless otherwise specified herein, the Contractor will not be required to furnish snow removal for such existing road, street, or highway.

The Contractor shall make his own estimate of all labor, materials, equipment, and incidentals necessary for providing the maintenance of pedestrian and vehicular traffic as specified in this subsection.

104-05 RIGHTS IN AND USE OF MATERIALS FOUND IN THE WORK:

Should the Contractor encounter any materials such as (but not restricted to) sand, stone, gravel, slag, or concrete slabs within the established lines, grades, or grading sections, the use of which is intended by the terms of the contract to be either embankment or waste, he may at his option either:

(a) Use such material in another contract item, providing such use is approved by the Owner's Engineer and is in conformance with the contract specifications applicable to such use; or,
(b) Remove such material from the site, upon written approval of the Owner's Engineer; or,
(c) Use such material for his own temporary construction on site; or,
(d) Use such material as intended by the terms of the contract.

Should the Contractor wish to exercise option (a), (b), or (c), he shall request the Owner's Engineer's approval in advance of such use. Should the Owner's Engineer approve the Contractor's request to exercise option (a), (b), or (c), the Contractor shall be paid for the excavation or removal of such material at the applicable contract price. The Contractor shall replace, at his own expense, such removed or excavated material with an agreed equal volume

of material that is acceptable for use in constructing embankment, backfills, or otherwise to the extent that such replacement material is needed to complete the contract work. The Contractor shall not be charged for his use of such material so used in the work or removed from the site.

Should the Owner's Engineer approve the Contractor's exercise of option (a), the Contractor shall be paid, at the applicable contract price, for furnishing and installing such material in accordance with requirements of the contract item in which the material is used.

It is understood and agreed that the Contractor shall make no claim for delays by reason of his exercise of option (a), (b), or (c).

The Contractor shall not excavate, remove, or otherwise disturb any materials, structure, or part of a structure which is located outside the lines, grades, or grading sections established for the work, except where such excavation or removal is provided for in the contract, plans, or specifications.

104-06 THRU 104-07 BLANK

104-08 PREVENTION OF AIR AND NOISE POLLUTION: Per Section 104.08 of the ADOT Standard Specifications unless modified herein.

104-09 PROTECTION OF LANDSCAPE DEFACEMENT; PROTECTION OF STREAMS, LAKES AND RESERVOIRS: Per Section 104.09 of the ADOT Standard Specifications unless modified herein.

104-10 CONTRACTOR'S RESPONSIBILITY FOR WORK:
Until the Owner's Engineer's final written acceptance of the entire completed work, excepting only those portions of the work accepted in accordance with the subsection titled PARTIAL ACCEPTANCE of Section 105-20(A), the Contractor shall have the charge and care thereof and shall take every precaution against injury or damage to any part due to the action of the elements or from any other cause, whether arising from the execution or from the non-execution of the work. The Contractor shall rebuild, repair, restore, and make good all injuries or damages to any portion of the work occasioned by any of the above causes before final acceptance and shall bear the expense thereof except damage to the work due to unforeseeable causes beyond the control of and without the fault or negligence of the Contractor, including but not restricted to acts of God such as earthquake, tidal wave, tornado, hurricane or other cataclysmic phenomenon of nature, or acts of the public enemy or of governmental authorities.

If the work is suspended for any cause whatever, the Contractor shall be responsible for the work and shall take such precautions necessary to prevent damage to the work. The Contractor shall provide for normal drainage and shall erect necessary temporary structures, signs, or other facilities at his expense.

104-11 thru 104-13 BLANK

104-14 FINAL CLEAN UP:
Before final acceptance, all private or public property and grounds occupied by the Contractor in connection with the work shall be cleaned of all rubbish, excess materials, temporary structures and equipment, and all parts of the work shall be left in a condition acceptable to the Owner's Engineer.

SECTION 105 CONTROL OF WORK:

105-01 AUTHORITY OF THE OWNER'S ENGINEER:

The Owner shall decide any and all questions which may arise as to the quality and acceptability of materials furnished, based upon the Contractor's Engineer's certification for the quality and acceptability work performed, and as to the manner of performance and rate of progress of the work. He shall decide all questions which may arise as to the interpretation of the specifications or plans relating to the work, the fulfillment of the contract on the part of the Contractor, and the rights of different contractors on the project. The Owner shall review and determine, based upon the Contractor's Engineer's certifications on amounts, quality of work and materials furnished, the amount and quality of the several kinds of work performed and materials furnished which are to be paid for under contract.

105-02 THRU 105-03 BLANK

105-04 CONFORMITY WITH PLANS AND SPECIFICATIONS:

All work and materials furnished shall be the full responsibility of the Contractor and shall be in reasonably close conformity with the lines, grades, grading section, cross sections, dimensions, material requirements, and testing requirements that are specified (including specified tolerances) in the contract, plans, or specifications, and shall be certified by the Contractor's Engineer.

If the Owner finds the materials furnished, work performed, or the finished product not within reasonably close conformity with the plans and specifications, but that the portion of the work affected will, in his opinion, result in a finished product having a level of safety, economy, durability and workmanship acceptable to the Owner, he will advise the Contractor of his determination that the affected work be accepted and remain in place. In this event, the Owner will document his determination and recommend to the Contractor a basis of acceptance which will provide for an adjustment in the contract price for the affected portion of the work. The Owner's determination and recommended contract price adjustments will be based on good engineering judgment and on such tests or retests by the Contractor's Engineer, and at the Contractor's expense, of the affected work as are, in his opinion, needed. Changes in the contract price shall be covered by contract modifications (change order or supplemental agreement) as applicable.

If the Owner finds the materials furnished, work performed, or the finished product are not in reasonably close conformity with the plans and specifications and have resulted in an unacceptable finished product, the affected work or materials shall be removed and replaced or otherwise corrected by and at the expense of the Contractor in accordance with the Owner’s written orders.

For the purpose of this subsection, the term "reasonably close conformity" shall not be construed as waiving the Contractor's responsibility to complete the work in accordance with the contract, plans and specifications. The terms shall not be construed as waiving the Owner's right to insist on strict compliance with the requirements of the contract, plans, and specifications during the Contractor's prosecution of the work, when, in the Owner's opinion, such compliance is essential to provide an acceptable finished portion of the work.

For the purpose of this subsection, the term "reasonably close conformity" is also intended to provide the Owner with the authority to use good engineering judgment in his determinations as to acceptance of work that is not in strict conformity but will provide a finished product equal to or better than that intended by the requirements of the contract, plans and specifications.

105-05 BLANK

105-06 COORDINATION OF CONTRACT, PLANS AND SPECIFICATIONS:
The contract, plans, specifications, and all referenced standards cited are essential parts of the contract requirements. A requirement occurring in one is as binding as though occurring in all. They are intended to be complementary and to describe and provide for a complete work. In case of discrepancy or conflict, the order in which they govern shall be as follows:

(A) Supplemental Agreements
(B) Special Provisions
(C) Project Plans
(D) Standard Drawings
(E) Standard Specifications

The Contractor shall not take advantage of any apparent error or omission on the plans or specifications. In the event the Contractor discovers any apparent error or discrepancy, he shall immediately call upon the Owner for his interpretation and decision, and such decision shall be final.

105-07 COOPERATION OF CONTRACTOR: Per Section 105.07 of the ADOT Standard Specifications unless modified herein.

105-08 COOPERATION WITH UTILITY COMPANIES: Per Section 105.08 of the ADOT Standard Specifications unless modified herein.

105-09 COOPERATION BETWEEN CONTRACTORS: Per Section 105.09 of the ADOT Standard Specifications unless modified herein.

105-10 CONSTRUCTION STAKES, LINES AND GRADES: Per Section 105.10 of the ADOT Standard Specifications unless modified herein.

105-11 AUTHORITY AND DUTIES OF INSPECTORS:
Inspectors employed by the Owner shall be authorized to inspect all work done and all material furnished. Such inspection may extend to all or any part of the work and to the preparation, fabrication, or manufacture of the materials to be used. Inspectors are not authorized to revoke, alter, or waive any provision of the contract. Inspectors are not authorized to issue instructions contrary to the plans and specifications or to act as foreman for the Contractor.

Inspectors employed by the Owner are authorized to notify the Contractor or his representative of any failure of the work or materials to conform to the requirements of the contract, plans, or specifications and to reject such nonconforming materials in question until such issues can be referred to the Owner's Engineer for his decision.

105-12 INSPECTION OF WORK: Per Section 105.12 of the ADOT Standard Specifications unless modified herein.

105-13 REMOVAL OF UNACCEPTABLE AND UNAUTHORIZED WORK:

All work which does not conform to the requirements of the contract, plans, and specifications will be considered unacceptable, unless otherwise determined acceptable by the Owner as provided in the subsection titled CONFORMITY WITH PLANS AND SPECIFICATIONS of Section 105-04.

Unacceptable work, whether the result of poor workmanship, use of defective materials, damage through carelessness, or any other cause found to exist prior to the final acceptance of the work, shall be removed immediately and replaced in an acceptable manner in accordance with the provisions of the subsection titled CONTRACTOR'S RESPONSIBILITY FOR WORK of Section 104-10.

No work shall be done without lines and grades having been given by the Contractor's Engineer and authorized by the Owner. Work done contrary to the instructions of the Owner, work done beyond the lines shown on the plans or as given, except as herein specified, or any extra work done without authority will be considered as unauthorized and will not be paid for under the provisions of the contract. Work so done may be ordered removed or replaced at the Contractor's expense.

Upon failure on the part of the Contractor to comply as soon as possible with any order of the Owner made under the provisions of this subsection, the Owner will have authority to cause unacceptable work to be remedied or removed and replaced and unauthorized work to be removed and to deduct the costs (incurred by the Owner) from any monies due or to become due the Contractor.

105-14 LOAD RESTRICTIONS: Per Section 105.14 of the ADOT Standard Specifications unless modified herein.

105-15 MAINTENANCE DURING CONSTRUCTION:
The Contractor shall maintain the work during construction and until the work is accepted. This maintenance shall constitute continuous and effective work prosecuted day by day, with adequate equipment and forces so that the work is maintained in satisfactory condition at all times.

In the case of a contract for the placing of a course upon a course or subgrade previously constructed, the Contractor shall maintain the previous course or subgrade during all construction operations.

All costs of maintenance work during construction and before the project is accepted shall be included in the unit prices bid on the various contract items, and the Contractor will not be paid an additional amount for such work.

105-16 FAILURE TO MAINTAIN THE WORK:
Should the Contractor at any time fail to maintain the work as provided in the subsection titled MAINTENANCE DURING CONSTRUCTION of Section 105-15, the Owner shall immediately notify the Contractor of such noncompliance. Such notification shall specify a reasonable time within which the Contractor shall be required to remedy such unsatisfactory maintenance conditions. The time specified will give due consideration to the emergency that exists.

Should the Contractor fail to respond to the Owner’s notification, the Owner may suspend any work necessary for the Owner to correct such unsatisfactory maintenance condition, depending on the emergency that exists. Any maintenance cost incurred by the Owner shall be deducted from monies due or to become due the Contractor.

105-17 BLANK

105-18 OPENING SECTIONS OF THE WORK TO TRAFFIC:

Should it be necessary for the Contractor to complete portions of the contract work for the beneficial occupancy of the Owner prior to completion of the entire contract, such "phasing" of the work shall be specified herein and indicated on the plans. When so specified, the Contractor shall complete such portions of the work on or before the date specified or as otherwise specified. The Contractor shall make his own estimate of the difficulties involved in arranging his work to permit such beneficial occupancy by the Owner as described below:

Upon completion of any portion of the work listed above, with certification of the work by the Contractor's Engineer, such portion shall be accepted by the Owner in accordance with the subsection titled PARTIAL ACCEPTANCE of Section 105-20(A).

No portion of the work may be opened by the Contractor for public use until ordered by the Owner's Engineer in writing. Should it become necessary to open a portion of the work to public traffic on a temporary or intermittent basis, such openings shall be made when, in the opinion of the Owner's Engineer, such portion of the work is in an acceptable condition to support the intended traffic. Temporary or intermittent openings are considered to be inherent in the work and shall not constitute either acceptance of the portion of the work so opened or a waiver of any provision of the contract. Any damage to the portion of the work so opened that is not attributable to traffic which is permitted by the Owner shall be repaired by the Contractor at his expense.

The Contractor shall make his own estimate of the inherent difficulties involved in completing the work under the conditions herein described and shall not claim any added compensation by reason of delay or increased cost due to opening a portion of the contract work.

105-19 BLANK

105-20 ACCEPTANCE:

(A) PARTIAL ACCEPTANCE:

If at any time during the prosecution of the project the Contractor substantially completes a usable unit or portion of the work, the occupancy of which will benefit the Owner, he may request the Owner to make final inspection of that unit. If the Owner finds upon inspection that the unit has been satisfactorily completed in compliance with the contract, and certified to be in compliance by the Contractor's Engineer, he may accept it as being completed, and the Contractor may be relieved of further responsibility for that unit, subject to stated guarantees. Such partial acceptance and beneficial occupancy by the Owner shall not void or alter any provision of the contract.

(B) FINAL ACCEPTANCE:

Upon due notice from the Contractor of presumptive completion of the entire project, and certification of completion and compliance to the approved plans by the Contractor's Engineer, the Owner will make an inspection. If all construction provided for and contemplated by the contract is found to be completed in accordance with the contract, plans, and specifications, such inspection shall constitute the final inspection. The Owner shall notify the Contractor in writing of final acceptance as of the date of the final inspection.

If, however, the inspection discloses any work, in whole or in part, as being unsatisfactory, the Owner will give the Contractor the necessary instructions for correction of same, and the Contractor shall immediately comply with and execute such instructions. Upon correction of the work, and recertification by the Contractor's Engineer, another inspection will be made which shall constitute the final inspection, provided the work has been satisfactorily completed. In such event, the Owner will make the final acceptance and notify the Contractor in writing of this acceptance as of the date of final inspection.

105-GC2 NEGOTIATIONS:
It is the intent of the County to award a Contract to the lowest responsible Bidder provided the Bid has been submitted in accordance with the requirements of the Bid Documents, is judged reasonable, and does not exceed the funds available.

(a) The County shall have the authority to negotiate with the lowest bidder to reduce the scope of the Project in the event that all responsive bids exceed the Project budget.

Bids shall be made available for public inspection by appointment only after the award has been made by the Board of Supervisors. The Board of Supervisors has the sole authority to award bids and any statement by any employee of the County is not binding on the Board.

The following criteria will be considered a part of the evaluation process:

(a) Competence and responsibility of Bidder.
(b) Qualifications and experience of Bidder.
(c) Past performance of Bidder.
(d) Conformity with bidding requirements and general considerations.
(e) Record of timely completion of punch lists on past projects.

Negotiations With Individual Contractors: Gila County Public Works Division shall establish procedures and schedules for conducting Negotiations. Disclosure of one (1) Contractor's Price or any information derived from competing Bid Prices or any information derived from competing Bids is prohibited.

(a) Any response to a request for clarification of a bid shall be in writing.
(b) The Public Works Division shall keep a record of all negotiations.

For the purpose of conducting Negotiations with Contractors, Gila County may use any of the following methods that, in their judgment, best meets the unique requirements.

(a) Concurrent Negotiations: Negotiations may be conducted concurrently with responsible Contractors for the purpose of determining source selection and/or Contract Award.
(b) Exclusive Negotiations: A determination may be made by the Public Works Director to enter into exclusive negotiations with the responsible Contractor whose bid is determined in the selection process to be the most Advantageous to Gila County.

Exclusive Negotiations may be conducted subsequent to concurrent Negotiations or may be conducted without requiring previous concurrent Negotiations.

(a) A determination to conduct exclusive Negotiations shall not constitute a Contract Award nor shall it confer any property rights to the successful bidder.

If exclusive Negotiations are conducted and an agreement is not reached, the County may enter into exclusive Negotiations with the next highest ranked Contractor without the need to repeat the formal Solicitation process.

105-21 CLAIMS FOR ADJUSTMENT AND DISPUTES:

If for any reason the Contractor deems that additional compensation is due him for work or materials not clearly provided for in the contract, plans, or specifications or previously authorized as extra work, he shall notify the Owner in writing of his intention to claim such additional compensation before he begins the work on which he bases the claim. If such notification is not given or the Owner is not afforded proper opportunity by the Contractor for keeping strict account of actual cost as required, then the Contractor hereby agrees to waive any claim for such additional compensation. Such notice by the Contractor and the fact that the Owner has kept account of the cost of the work shall not in any way be construed as proving or substantiating the validity of the claim. When the work on which the claim for additional compensation is based has been completed, the Contractor shall, within 10 calendar days, submit his written claim, along with certification by the Contractor's Engineer, to the Owner for consideration in accordance with local laws or ordinances.

Nothing in this subsection shall be construed as a waiver of the Contractor's right to dispute final payment based on differences in measurements or computations.

SECTION 106 CONTROL OF MATERIAL

Per Section 106 of the ADOT Standard Specifications unless modified herein.

106.04(A) General: the fourth and fifth paragraphs of the Standard Specifications are revised to read:
The sampling, testing, and acceptance of materials shall be in accordance with the requirements of the specifications, in conjunction with the following:

- The ADOT Materials Testing Manual.
- The ADOT Materials Policy and Procedure Directives Manual.
- Applicable Federal, AASHTO, or ASTM specifications or test designations.
- Applicable specifications or test designations of other nationally recognized organizations.

Unless otherwise specified, whenever a reference is made to an Arizona Test Method or an ADOT Materials Policy and Procedure Directive, it shall mean the test method or policy and procedure directive in effect on the bid opening date.

106.04(C)(2) Quality Control Laboratory: the first paragraph is revised to read:
All field and laboratory sampling and testing shall be performed by a laboratory or laboratories approved by the Department. The requirements for approval of laboratories are specified in ADOT Materials Policy and Procedure Directive No. 19, "ADOT System for the Evaluation of Testing Laboratories". Approved laboratories, and the test methods for which they are approved to perform, are listed in the "ADOT Directory of Approved Materials Testing Laboratories". Approved test methods listed in the "ADOT Directory of Approved Materials Testing Laboratories" do not include field sampling and testing procedures. When field sampling and testing procedures are performed, the appropriate valid Arizona Technical Testing Institute (ATTI) and/or American Concrete Institute (ACI) certification(s) are required. ADOT Materials Policy and Procedure Directive No. 19, "ADOT System for the Evaluation of Testing Laboratories" and the "ADOT Directory of Approved Materials Testing Laboratories" may be obtained on the internet from the ADOT Materials Quality Assurance Section website.

106.04(C)(6) Weekly Quality Control Reports: of the Standard Specifications is revised to read:
The contractor shall submit Weekly Quality Control Reports to the Engineer. The weekly reports shall be complete and accurate, and shall state the types of work which have been performed during the report period. The report shall also include the process control measures taken to assure quality. The report shall provide sample identification information for materials tested during the report period, including sample number, date sampled, sample location, first and last name of person obtaining sample, and original source of material. The report shall also provide the results for all required tests and any retests, corrective actions, and other information relevant to quality control. The report shall include daily diaries for each day of testing, a weekly summary, the contract number, and the testing laboratory's project identification number.

Except as stated in the following paragraph, the weekly quality control report shall be prepared using standard forms provided by the Department. The standard forms are available on the Department's website at www.azdot.gov. After accessing the Department's website, select "Business", "Engineering and Construction", "Construction", "Contractors' Information", "Forms and Documents", and then "Weekly Quality Control Forms". Except for the daily diaries, all

documentation and information required on the forms shall be typed. Daily diaries may be hand-written if acceptable to the Engineer. The weekly report shall be submitted to the Engineer in paper form with a transmittal letter signed by the contractor's quality control manager.

In lieu of using the standard weekly quality control forms available on the Department's website, the contractor or testing laboratory may prepare the weekly report using proprietary or other software, if acceptable to the Engineer, provided that all required information is included, the format is comparable to the Department's standard format, and the report is submitted in paper form with the required transmittal letter.

The report period shall end at midnight of each Friday, and the report shall be submitted to the Engineer no later than 5:00 p.m. of the following Wednesday. The Engineer will verify that the report is timely, complete and accurate.

Reports that are not submitted by the above-referenced deadline shall be considered delinquent. Reports that are submitted by the above-referenced deadline, but are not complete and accurate, shall also be considered delinquent. In either case monies shall be deducted from the contractor's monthly estimate in accordance with the requirements for Contractor Quality Control, as specified in these special provisions.

106.05 Certificates: of the Standard Specifications is revised to read:

(A) General:

The contractor shall submit to the Engineer an original or copy of either a Certificate of Compliance or a Certificate of Analysis, as required, prior to the use of any materials or manufactured assemblies for which the specifications require that such a certificate be furnished.

Certificates shall be specifically identified as either a "Certificate of Compliance" or a "Certificate of Analysis".

The Engineer may permit the use of certain materials or manufactured assemblies prior to, or without, sampling and testing if accompanied by a Certificate of Compliance or Certificate of Analysis, as herein specified. Materials or manufactured assemblies for which a certificate is furnished may be sampled and tested at any time, and, if found not in conformity with the requirements of the plans and the specifications, will be subject to rejection, whether in place or not.

Certificates of Compliance and Certificates of Analysis shall comply with the requirements specified herein, the ADOT Materials Testing Manual, and applicable ADOT Materials Policy and Procedure Directives.

(B) Certificate of Compliance:

A Certificate of Compliance shall be submitted on the manufacturer's or supplier's official letterhead, and shall contain the following information:

(1) The current name, address, and phone number of the manufacturer or supplier of the material.
(2) A description of the material supplied.
(3) Quantity of material represented by the certificate.
(4) Means of material identification, such as label, lot number, or marking.

(5) A statement that the material complies in all respects with the requirements of the cited specifications. Certificates shall state compliance with the cited specification, such as AASHTO M 320, ASTM C 494; or specific table or subsection of the Arizona Department of Transportation Standard Specifications or Special Provisions. Certificates may cite both, if applicable.
(6) A statement that the individual identified in item seven below has the legal authority to bind the manufacturer or the supplier of the material.
(7) The name, title, and signature of the responsible individual. The date of the signature shall also be given.

Each of the first six items specified above shall be completed prior to the signing of the certificate as defined in item seven. No certificate will be accepted that has been altered, added to, or changed in any way after the authorized signature has been affixed to the original certificate. However, notations of a clarifying nature, such as project number, contractor, or quantity shipped are acceptable, provided the basic requirements of the certificate are not affected.

A copy or facsimile reproduction of the original certificate will be acceptable; however, the original certificate shall be made available upon request.

(C) Certificate of Analysis:
A Certificate of Analysis shall include all the information required for a Certificate of Compliance and, in addition, shall include the results of all tests required by the specifications.

106.15 BLANK

SECTION 107 LEGAL RELATIONS AND RESPONSIBILITY TO PUBLIC

107-01 LAWS TO BE OBSERVED:
The Contractor shall keep fully informed of all Federal and State laws, all local laws, ordinances, and regulations and all orders and decrees of bodies or tribunals having any jurisdiction or authority, which in any manner affect those engaged or employed on the work, or which in any way affect the conduct of the work. He shall at all times observe and comply with all such laws, ordinances, regulations, orders, and decrees; and shall protect and indemnify the Owner and all his officers, agents, or servants against any claim or liability arising from or based on the violation of any such law, ordinance, regulation, order, or decree, whether by himself or his employees.

Laws and Ordinances: This agreement shall be enforced under the laws of the State of Arizona and Gila County. The Contractor shall maintain in current status all Federal, State and Local licenses and permits required for the operation of the business conducted by the Contractor. The Contractor shall comply with the applicable provisions of the Americans with Disabilities Act (Public Law 101-336, 42 U.S.C. 12101-12213) and applicable federal regulations under the Act.

107-02 PERMITS, LICENSES, AND TAXES: Per Section 107.02 of the ADOT Standard Specifications unless modified herein.

107-03 PATENTED DEVICES, MATERIALS, AND PROCESSES: Per Section 107.03 of the ADOT Standard Specifications unless modified herein.

107-04 THRU 107-06 BLANK

107-07 SANITARY, HEALTH, AND SAFETY PROVISIONS:

The Contractor shall provide and maintain in a neat, sanitary condition such accommodations for the use of his employees as required to comply with the requirements of the State and local boards of health, or of other bodies or tribunals having jurisdiction. Contractor is responsible for supplying toilet and hand washing facilities at the work site.

Attention is directed to Federal, State and local laws, rules and regulations concerning construction safety and health standards. The Contractor shall not require any worker to work in surroundings or under conditions which are unsanitary, hazardous, or dangerous to his health or safety as determined under the Arizona Occupational Safety and Health Standards for Construction, adopted by the Industrial Commission of Arizona pursuant to the Authority in A.R.S. §23-410.

Before the Contractor or any subcontractor begins work on the project they must read the Gila County Public Works Division Safety & Loss Control booklet and sign an acknowledgement form.

Contractor Safety Tailgate Meetings: Contractor shall conduct tailgate safety meetings regularly to ensure that safety on the job is given priority.

Accident/Injury Procedure: Contractor shall contact the Owner and the Gila County Risk Management Division within twenty-four (24) hours of the occurrence of an accident or injury arising out of the Contractor's work under this contract.

Unsafe Acts: Contractor employees are encouraged to abate or remedy any unsafe act or condition which may arise in the course of Contractor's work under this contract.

Safety Audits: The County reserves the right to conduct safety audits at the job site and stop unsafe acts at any time. In addition, the County shall be notified should any OSHA inspection occur at a County job site.

107-08 PUBLIC CONVENIENCE AND SAFETY:

The Contractor shall control his operations and those of his subcontractors and all suppliers, to assure the least inconvenience to the traveling public. Under all circumstances, safety shall be the most important consideration.

All work shall be performed in compliance with Federal OSHA Standards.

The Contractor shall maintain the free and unobstructed movement of vehicular traffic with respect to his own operations and those of his subcontractor and all suppliers in accordance with the subsection titled MAINTENANCE OF TRAFFIC of Section 104-04 hereinbefore specified.

107-09 BARRICADES, WARNING SIGNS AND HAZARD MARKINGS:

The Contractor shall furnish, erect and maintain all barricades, warning signs, and markings for hazards necessary to protect the public and the work. When used during periods of darkness, such barricades, warning signs and hazard markings shall be suitably illuminated.

For vehicular and pedestrian traffic, the Contractor shall furnish, erect, and maintain barricades, warning signs, lights and other traffic control devices in reasonable conformity with the MUTCD.

The Contractor shall furnish and erect all barricades, warning signs and markings for hazards prior to commencing work which required such erection and shall maintain the barricades, warning signs, and markings for hazards until their dismantling is directed by the Owner's Engineer.

107-10 BLANK

107-11 PROTECTION AND RESTORATION OF PROPERTY AND LANDSCAPE: Per Section 107.11 of the ADOT Standard Specifications unless modified herein.

107-12 BLANK

107-13 RESPONSIBILITY FOR DAMAGE CLAIMS:
To the fullest extent permitted by law, Contractor shall defend, indemnify and hold harmless Gila County and their respective agents, representatives, officers, directors, officials, and employees from and against any and all demands, proceedings, suits, actions, claims, damages, or losses relating to, arising out of, resulting from or alleged to have resulted from the performance of the Work. Contractor's duty to defend, indemnify and hold harmless the indemnitee and their respective agents, representatives, officers, directors, officials and employees shall arise in connection with any and all demands, proceedings, suits, actions, claims, workers compensation claims, unemployment claims, damages, losses or expenses (including but not limited to attorney's fees, court costs and the cost of appellate proceedings) that are attributable to personal or bodily injury, sickness, disease, death, or injury to, impairment or destruction of property including the loss of use resulting thereon, caused by any act or omission of the Contractor, a subcontractor, anyone directly or indirectly employed by them or for whose acts they may be liable. The amount and type of insurance coverage requirements set forth in the Contract shall in no way be construed as limiting the scope of this indemnity.

107-14 CONTRACTOR'S INSURANCE:
Within ten (10) days of the execution of the contract, the Contractor shall file with the Gila County Procurement Department a certificate or certificates of insurance executed by an insurance company doing business in the State of Arizona and acceptable to the Owner's Engineer. The certificate of insurance shall state that, with respect to the contract awarded the Contractor; the Contractor carries insurance in accordance with the requirements of the Contract listed on pages 142 through 144.

On all policies Gila County shall be named as an additional insured.

107-15 CONTRACTOR'S RESPONSIBILITY FOR UTILITY PROPERTY AND SERVICES:

(A) General:

The contractor's attention is directed to the requirements of Arizona Revised Statutes Section 40-360.21 through .29 requiring all parties excavating in public streets, alleys or utility easements to first secure the location of all underground facilities in the vicinity of the excavation.

The contractor shall contact the owners of the various utilities prior to the start of construction and shall obtain from them any information pertaining to existing utilities that will either supplement information shown on the project plans or will correct any such information that may be incorrect. The contractor shall furnish the Engineer with evidence that the contractor has contacted the utility companies. Such evidence shall be submitted at the preconstruction conference, and shall include a copy of the information received from each utility as a result of such contacts.

If the contractor learns from either the owner of the utility or from any other source of the existence and location of properties of railway, telegraph, telephone, fiber optics cable, water, sewer, septic tanks or systems, electric, gas and cable television companies either omitted from or shown incorrectly on the project plans, the contractor shall immediately notify the Engineer and shall not disturb the utilities. Relocation or adjustment of such utilities, if deemed necessary, will be either performed by others or shall be performed by the contractor in accordance with the provisions of Subsection 104-02(C).

The contractor shall cooperate with the owners of any underground or overhead utility lines in their removal and rearrangement operations in order that these operations may progress in a reasonable manner, that duplication of rearrangement work may be reduced to a minimum and that services rendered by these parties will not be unnecessarily interrupted.

Temporary or permanent relocation or adjustment of any utility line or service connection desired by the contractor for its convenience shall be its responsibility. The contractor shall obtain the approval of both the Engineer and the utility company and upon approval shall make all necessary arrangements with the utility company and shall bear all costs in connection with such relocation or adjustment. The contractor shall also submit a Sewer Discharge Prevention Plan, as specified in Subsection 107-15(C)(1), describing each anticipated relocation or adjustment involving existing sanitary sewer lines. No work on a particular facility shall begin until all approvals for that facility have been received.

(B) Contractor Qualifications for Water and Sewer Lines:

Breakage of active sanitary sewer lines may result in the potential spread of disease, contamination of the site and any adjacent bodies of water, and other hazards to the public. Substantial cleanup costs may be associated with such breakage, as well as possible major civil and/or criminal penalties. Therefore, the Engineer will closely consider the qualifications of any personnel proposed by the contractor to oversee or perform work involving active sanitary sewer lines. The contractor shall not assume that the personnel assigned to perform such work will be acceptable to the Department merely because they meet the experience requirements listed herein.

The contractor, or the subcontracting firm assigned to perform the water and sewer work, shall have a minimum of five years of experience in the installation and construction of underground large diameter (18-inch or above) water and sewer improvements.

In addition, the key personnel assigned by the contractor to perform any work on water or sewer lines, whether from the prime contractor or a subcontracting firm, shall also have at least five years of experience in the installation and construction of underground large diameter (18-inch or above) water and sewer improvements. A minimum of two such people shall be designated by the contractor. The designated personnel may have the title of foreman or superintendent; however, at least one of these people shall be present at all times at the location of any work being performed at or near an active sanitary sewer line.

For both the firm and the key personnel, the experience shall include working with and around water and sewer utility lines that are in service. The contractor shall submit the following documentation to the Engineer for review and approval:

(1) A list indicating that the designated key project personnel have at least five years of applicable experience, as specified above. The list shall be accompanied with resumes for each of the key people. The resumes shall include the following information, and demonstrate compliance with the specified requirements:

(a) Detailed relevant experience for a minimum of two projects, including project description, date of work, actual work performed by the individual, and references (a minimum of one for each project).

(b) Level of applicable formal training.

(c) Number of years of relevant experience in performing like construction.

(2) A list of water and sewer construction projects completed by the firm performing the water or sewer work, as specified above, indicating a minimum of five years of applicable experience. Include the dates of work, type of work, description of the project, amount of work performed by the contractor/subcontractor, and the name and phone number of a contact with the owning company or agency for which the work was completed.

(3) List of equipment that will be used for this project. The list shall include, as a minimum, equipment type, date of manufacture, and if contractor-owned or rented.

(4) A list of all violations and citations in the past five years of applicable water and wastewater laws and statutes for both the prime contractor and the subcontractor responsible for the utility work.

The contractor shall submit this documentation to the Engineer for approval at least 21 calendar days prior to any anticipated work involving active sanitary sewer lines, whether new or existing.

(C) Protection of Existing Utility Lines:

At points where the contractor's operations are adjacent to right-of-way properties or easements for railway, telegraph, telephone, water, sewer, electric, gas and cable television companies, hereinafter referred to as utilities, or are adjacent to other facilities and property, damage to which might result in considerable expense, loss, inconvenience, injury or death, work shall not be commenced until all arrangements necessary for the protection thereof have been made.

The exact locations and depths of all utilities that are underground or the location of those on or near the surface of the ground which are not readily visible shall be determined. Such locations

shall be marked in such a manner so that all workmen or equipment operators will be thoroughly apprised of their existence and location. It will be the contractor's responsibility to see that every effort possible has been made to acquaint those actually involved in working near utilities not only with the type, size, location and depth, but with the consequences that might follow any disturbance. No trenching or similar operation shall be commenced until the Engineer is satisfied that every possible effort has been taken by the contractor to protect utilities.

The contractor shall coordinate with others working near new or existing sewer lines or other utilities on the procedures to be followed to prevent damaging of these utilities.

(1) Sewage Discharge Prevention Plan (SDPP):
For any work which may impact active sanitary sewer pipes, whether new or existing, the contractor shall prepare a Sewage Discharge Prevention Plan (SDPP) which shall describe the contractor's procedures and work plan for such lines. The Sewage Discharge Prevention Plan shall also describe the precautions that the contractor shall take to prevent unplanned breakage or spills, and the procedure which the contractor shall follow if breakage or a spill occurs.

The contractor's method of work described in the SDPP shall ensure that any work done in or near any active sewer line is performed in a safe and controlled manner resulting in no accidental discharges. As a minimum, the contractor's equipment and procedures shall be appropriate for the intended work, and shall conform to standard industry practices.

The SDPP shall include information, as specified below, for all portions of the project which involve the following work activities, and for any other element of work which may involve contact with an active sanitary sewer line:

- Interrupt, divert, relocate, plug, or abandon a sewer line or service connection, or
- Brace, or tie into a sewer line or service connection.

Construction activities in the vicinity of active sanitary sewer lines or service connections shall also be included in the SDPP if any of the following conditions exist:

(1) Any work crossing beneath the pipe, at any angle, regardless of vertical separation.

(2) Any work crossing over the pipe, at any angle, within two feet of the top of pipe.

(3) Work located parallel to the pipe within the following areas:

(a) For the area from the bottom of the pipe to two feet above the top of the pipe, any work within two feet horizontally of the pipe wall.

(b) For the area below the bottom of the pipe, any work located below an imaginary line beginning at the pipe spring line and progressing downward at a slope of 1.5 feet vertically to 1.0 feet horizontally.

The contractor’s Sewage Discharge Prevention Plan shall address each of the items tabulated below, as applicable, for every location where construction activity will involve an active sanitary sewer line.

(2) Required Elements of the Sewage Discharge Prevention Plan:
The following elements shall be addressed in the SDPP:

(a) Describe the proposed work in general, including the reasons for the work, scope, objectives, locations, dates, and estimated times the work will be conducted. Include project plan sheets detailing the proposed work, and indicating the peak flowrates of active sewer lines, determined as specified.

(b) For all existing sanitary sewer pipes, determine whether the lines are active or abandoned, and the peak flowrates of lines in service, as provided by the owner of the utility.

(c) List the key personnel (crew foreman, superintendent, and manager) and field office that are proposed to perform the work (include phone numbers).

(d) Describe the work in step-by-step detail for each location, including excavation plans and how both the new and existing structures and utilities will be identified and protected.

(e) Provide a detailed listing of any hardware, fittings, pipe plugs, flex couplings, tools, and materials needed to accomplish the work, and note the status of these items (on-hand, to-be-fabricated, on-order with expected delivery date, etc.). Include any manufacturer's specifications or recommendations, especially for any pipe plugs, sewer line fittings, and patching materials.

(f) List all major equipment to be used to perform the work. Include in this item any pumps that will be used to perform the work and the rated capacity of the pumps at the anticipated suction head.

(g) List all equipment to be used in the event of an unplanned release and specify how the equipment will be used. The locations of standby pumps shall be specified in this item. The plan shall indicate that all standby equipment to be used in the event of an unplanned discharge can be delivered to the site and put into service within two hours of identification of any unplanned flow.

(h) List the safety equipment to be used, and describe any unique safety procedures. Cite the applicable OSHA standards covering the work.

(i) Describe any contingency plans the contractor will implement in the event of unplanned releases and/or damage to existing facilities. List all personnel and subcontractors that will be responsible for responding to unplanned releases or damaged lines. Provide qualifications for all such personnel and subcontractors, including education, formal training, and relevant experience.

(j) Describe how the public will be protected during the work, and include or cite any applicable traffic control plans.

(k) Describe the quality control procedures that will be used in the field.

(l) Discuss how temporary plugs or flow control devices will be secured, monitored, and removed.

The SDPP shall be in written form, and shall include any diagrams or sketches necessary for clarity. When possible, diagrams and sketches should be shown using the applicable project plan sheets.

The contractor shall modify the SDPP as necessary throughout the project to include any new or revised information relevant to the items listed above. The contractor shall resubmit the revised SDPP to the Engineer for approval in each case.

(3) Sewage Discharge Prevention Plan Approval:
The SDPP shall be submitted to the Engineer at least 21 calendar days before any work involving an active sewer line is to be done. The Engineer will review the plan, solicit comments from the owner/operator of the sewer line, and return the plan to the contractor within 14 calendar days from original submittal.

No work involving active sanitary sewer lines shall be done until a final SDPP meeting all the requirements specified in Subsection 107-15(C)(2) has been approved by the Engineer.

Approval of the contractor's Sewage Discharge Prevention Plans, personnel, or construction methods and operation shall not relieve the contractor from its responsibility to safely perform the work included in this contract, nor from its liability for damage resulting, either directly or indirectly, from its work performed under this contract.

(D) Service Connections:

(1) General:
In the event of interruption to water, sewer, or utility services as a result of accidental breakage or as a result of lines being exposed or unsupported, the contractor shall promptly notify the proper authority and shall cooperate with the said authority in the restoration of service. When service is interrupted, repair work shall be continuous until the service is restored. No work shall be undertaken around fire hydrants until provisions for continued service have been approved by the local fire authority.

(2) Unidentified Water and Sewer Connections:
The contractor shall protect unidentified, undamaged water or sewer service connections encountered during excavation. The contractor shall immediately notify the Engineer when an unidentified service connection is encountered.

The contractor shall immediately repair unidentified water or sewer service connections that are damaged during excavation. Any damaged service connections shall be reported to the Engineer, including all remedial actions taken.

(E) Repairing Damaged Lines:
When the operations of the contractor result in damage to any utility line or service connection, the location of which has been brought to the contractor's attention, the contractor shall assume full responsibility for such damage.

Should an unplanned breakage occur in an active sewer line as a result of the contractor's operations, the contractor shall immediately notify the Engineer, and begin repairs to halt any flows and restore normal service, in accordance with the procedures described in the approved Sewage Discharge Prevention Plan. The contractor shall also immediately notify the affected utility company and the appropriate regulatory agencies. The contractor shall be responsible for repairing the damaged pipe, restoring any interruptions in service, and cleaning up the affected areas within 24 hours of the beginning of the spill. Sewage discharge damage assessments, as specified in Subsection 107-15(F), will be charged to the contractor for any unplanned breakage which results in a discharge.

The contractor shall be responsible to repair any breakage, in accordance with requirements of the broken line's owner/operator, and clean up the site per applicable codes and regulations of the Environmental Protection Agency, OSHA, Arizona Department of Environmental Quality (ADEQ), and all other agencies' specifications, at no additional cost to the Department.

(F) Sewage Discharge Damage Assessments:
The Department will assess liquidated damages in accordance with the Table 1 below for each 24-hour period, or portion thereof, for each unplanned breakage that occurs in an active sanitary sewer line as a result of the contractor's operation. The rate of liquidated damages assessed is based on the type and quantity of effluent discharged as determined by the Engineer.

These liquidated damages do not relieve the contractor from any of its responsibilities under the contract, including any liquidated damages that may be assessed under Subsection 108.09 for late completion of the project.

Liquidated damages assessed by the Department will be independent of any penalties imposed by others.

The contractor acknowledges that Regulatory agencies may assess or impose civil or criminal penalties on the contractor resulting from sewer discharges.

The Department will not be responsible for any civil or criminal penalties, fines, damages, or other charges imposed on the contractor by any regulatory agency or court for sewage discharges that are a result, directly or indirectly, of the contractor’s work performed under this contract.

Table 1		
Liquidated Damages (each 24 hour period, or portion thereof)		
Volume of Discharge	Raw Sewage or Industrial Wastewater	Treated Effluent
Less than 10,000 gallons	$5,000.00	$1,000.00
10,000-99,999 gallons	$10,000.00	$2,000.00
100,000-1 million gallons	$25,000.00	$3,000.00
Greater than 1 million gallons	$40,000.00	$5,000.00

Liquidated damages shall be assessed for each 24 hour period, or portion thereof, until the contractor has completed all of the following tasks:

(A) Stopped the discharge.

(B) Repaired the damaged pipe.

(C) Restored normal service.

(D) Fully cleaned and disinfected the site to the satisfaction of the Engineer.

REDUCTION OF LIQUIDATED DAMAGES: Upon completion of tasks A, B, and C above, and prior to completion of Task D, the liquidated damages assessed for the current 24-hour period shall be at the rate shown in Table 1. However, for each subsequent 24-hour period, the assessment will be one half of the rate shown in Table 1.

Damages will continue at the reduced rate until the site has been fully cleaned and disinfected to the satisfaction of the Engineer.

As an example, the amounts assessed each 24-hour period for an unplanned discharge of 20,000 gallons of raw sewage, in which the contractor completes tasks A, B, and C within the second 24-hour period but does not complete full cleanup until the third 24-hour period, will be as follows:

First 24-hour period: $10,000.00

Second 24-hour period: $10,000.00

Third 24-hour period: $5,000.00

For this example, the total liquidated damage assessment will be $25,000.00 ($10,000 + $10,000 + $5,000).

107-16 PERSONAL LIABILITY OF PUBLIC OFFICIALS:

In carrying out any of the contractor provisions or in exercising any power or authority granted to him by this contract, there shall be no liability upon the Owner's Engineer, his authorized representatives, or any official of the Owner either personally or as an official of the Owner. It is understood that in such matters they act solely as agents and representatives of the Owner.

107-17 NO WAIVER OF LEGAL RIGHTS:

Upon completion of the work, the Owner will expeditiously make final inspection and notify the Contractor of final acceptance. Such final acceptance, however, shall not preclude or stop the Owner from correcting any measurement, estimate, or certificate made before or after completion of the work, nor shall the Owner be precluded or stopped from recovering from the Contractor or his surety, or both, such overpayment as may be sustained, or by failure on the part of the Contractor to fulfill his obligations under the contract. A waiver on the part of the Owner of any breach of any part of the contract shall not be held to be a waiver of any other or subsequent breach.

The Contractor, without prejudice to the terms of the contract, shall be liable to the Owner for latent defects, fraud, or such gross mistakes as may amount to fraud, or as regards the Owner's rights under any warranty or guaranty.

SECTION 108 PROSECUTION AND PROGRESS

108-01 SUBLETTING OF CONTRACT:

The Contractor shall not sublet, sell, transfer, assign or otherwise dispose of the contract or contracts or any portion thereof or of his right, title or interest therein without written consent of the Owner's Engineer. In case such consent is given, the Contractor will be permitted to sublet a portion thereof, but shall perform with his own organization work amounting to not less than 50 percent of the total contract amount, except that any items designated in the contract as "Specialty Items" may be performed by subcontract and the cost of any such specialty items so performed by subcontract may be deducted from the total cost before computing the amount of work required to be performed by the Contractor with his own organization. No subcontracts or transfer of contract shall release the Contractor of his liability under the contract and bond.

"His own organization" shall be construed to include only workmen employed and paid directly by the prime contractor and equipment owned or rented by him, with or without operators.

"Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, craftsmanship or equipment not ordinarily available in contracting organizations qualified to bid on the contract as a whole and in general are to be limited to minor components of the overall contract.

The contract amount upon which the 50 percent requirement is computed includes the cost of materials and manufactured products which are to be purchased or produced by the Contractor under the contract provisions.

Any items that have been selected as "Specialty Items" for the contract will be listed as such in the special provisions, bidding schedule, or elsewhere in the contract documents.

The Owner will not recognize any subcontractor on the work. The Contractor shall at all times when work is in progress be represented either in person, by a qualified superintendent, or by other designated, qualified representative who is duly authorized to receive and execute the orders of the Owner's Engineer.

Should the Contractor elect to assign his contract, said assignment shall be concurred in by the surety, shall be presented for the consideration and approval of the Owner, and shall be consummated only on the written approval of the Owner. In case of approval, the Contractor shall file copies of all subcontracts with the Owner's Engineer

108-02 NOTICE TO PROCEED:

The notice to proceed shall state the date on which it is expected the Contractor will begin the construction and from which date contract time will be charged. The Contractor shall begin the work to be performed under the contract within ten (10) calendar days of the date set by the Owner's Engineer in the written notice to proceed, but in any event, the Contractor shall notify the Owner's Engineer at least two (2) work days in advance of the time actual construction operations will begin.

108-03 PRECONSTRUCTION CONFERENCE:

The contractor shall meet with the Engineer for a preconstruction conference prior to commencing work. At the preconstruction conference, the contractor shall submit to the Owner a progress schedule for review and approval. The schedule shall show the order in which the contractor proposes to carry out the work, the dates on which the contractor will start the salient features of

the work and the contemplated dates for the completion of the said salient features. The schedule may be in a bar chart format or a critical path method format. No schedule activity shall be shorter than one day or longer than 15 working days. The schedule must show interrelationships among the activities, and the controlling items of work throughout the project shall be identified. If requested by the Engineer, the contractor shall furnish information needed to justify activity time durations. Such information shall include estimated manpower, equipment, unit quantities, and production rates. The schedule shall illustrate the completion of the work not later than the contract completion date.

The contractor shall furnish a list of the contractor's proposed subcontractors and major material suppliers.

The contractor shall submit a traffic control plan in accordance with Subsection 701-1 of the ADOT Standard Specifications. The contractor shall designate an employee who is competent and experienced in traffic control to implement and monitor the traffic control plan. The qualifications of the designated employee must be satisfactory to the Engineer.

The contractor shall submit a Safety Plan and designate a competent person as Safety Supervisor to be responsible for implementation of the Safety Plan.

Both plans must be satisfactory to the Engineer.

If approved by the Engineer, the contractor may designate one employee to be responsible for both the traffic control and safety plans.

The contractor shall also submit a program for erosion control and pollution prevention, as set forth in Subsection 104-09, on all projects involving clearing and grubbing, earthwork, or other construction, when such work is likely to create erosion or pollution problems.

If the contractor fails to provide the required submissions, the Engineer may order the preconstruction conference suspended until such time as they are furnished. Work shall not begin until the preconstruction conference has been concluded and the safety plan has been approved, unless authorized by the Engineer. The contractor shall not be entitled to additional compensation or an extension of contract time resulting from any delays due to such a suspension.

When the specifications require specific quality control measures for certain materials by referencing Subsection 106.04(C), the contractor shall designate a qualified employee as Quality Control Manager. The Quality Control Manager shall be responsible for the implementing and monitoring of the quality control requirements described in Subsection 106.04(C).

108-04 PROSECUTION AND PROGRESS:

The Contractor's progress schedule, when approved by the Owner's Engineer, may be used to establish major construction operations and to check on the progress of the work. The Contractor shall provide sufficient materials, equipment, and labor to guarantee the completion of the project in accordance with the plans and specifications within the time set forth in the proposal.

If the Contractor falls significantly behind the submitted schedule, the Contractor shall, upon the Owner's Engineer's request, submit a revised schedule for completion of the work within the contract time and modify his operations to provide such additional materials, equipment, and labor

necessary to meet the revised schedule. Should the prosecution of the work be discontinued for any reason, the Contractor shall notify the Owner's Engineer at least twenty-four (24) hours in advance of resuming operations.

The Contractor shall not commence any actual construction prior to the date on which the notice to proceed is issued by the Owner.

108-05 LIMITATION OF OPERATIONS: Per Section 108.05 of the ADOT Standard Specifications unless modified herein.

108-06 CHARACTER OF WORKERS: Per Section 108.06 of the ADOT Standard Specifications unless modified herein.

108-07 METHODS AND EQUIPMENT: Per Section 108.07 of the ADOT Standard Specifications unless modified herein.

108-GC1 TEMPORARY SUSPENSION OF THE WORK:
The Owner's Engineer shall have the authority to suspend the work wholly, or in part, for such period or periods as he may deem necessary, due to unsuitable weather, or such other conditions as are considered unfavorable for the prosecution of the work, or for such time as is necessary due to the failure on the part of the Contractor to carry out orders given or perform any or all provisions of the contract.

In the event that the Contractor is ordered by the Owner's Engineer, in writing, to suspend work for some unforeseen cause not otherwise provided for in the contract and over which the Contractor has no control, the Contractor may be reimbursed for actual money expended on the work during the period of shutdown. No allowance will be made for anticipated profits. The period of shutdown shall be computed from the effective date of the Owner's Engineer's order to suspend work to the effective date of the Owner's Engineer's order to resume the work. Claims for such compensation shall be filed with the Owner's Engineer within the time period stated in the Owner's Engineer's order to resume work. The Contractor shall submit with his claim information substantiating the amount shown on the claim. The Owner's Engineer will forward the Contractor's claim to the Owner for consideration in accordance with local laws or ordinances. No provision of this article shall be construed as entitling the Contractor to compensation for delays due to inclement weather, for suspensions made at the request of the Contractor, or for any other delay provided for in the contract, plans or specifications.

If it should become necessary to suspend work for an indefinite period, the Contractor shall store all materials in such manner that they will not become an obstruction nor become damaged in any way. He shall take every precaution to prevent damage or deterioration of the work performed and provide for normal drainage of the work. The Contractor shall erect temporary structures where necessary to provide for the continuous flow of traffic.

108-08 DETERMINATION AND EXTENSION OF CONTRACT TIME:

The number of calendar or working days allowed for completion of the work shall be stated in the proposal and contract and shall be known as the CONTRACT TIME.

Should the contract time require extension for reasons beyond the Contractor's control, it shall be adjusted as follows:

(a) CONTRACT TIME based on WORKING DAYS shall be calculated weekly by the Owner's Engineer. The Owner's Engineer will furnish the Contractor a copy of his weekly statement of the number of working days charged against the contract time during the week and the number of working days currently specified for completion of the contract (the original contract time plus the number of working days, if any, that have been included in approved CHANGE ORDERS or SUPPLEMENTAL AGREEMENTS covering EXTRA WORK (104-02(C)).

The Owner's Engineer shall base his weekly statement of contract time charged on the following considerations:

(1) No time shall be charged for days on which the Contractor is unable to proceed with the principal item of work under construction at the time for at least 6 hours with the normal work force employed on such principal item. Should the normal work force be on a double-shift, 12 hours shall be used. Should the normal work force be on a triple-shift, 18 hours shall apply. Conditions beyond the Contractor's control such as strikes, lockouts, unusual delays in transportation, temporary suspension of the principal items of work under construction or temporary suspension of the entire work which have been ordered by the Owner's Engineer for reasons not the fault of the Contractor, shall not be charged against the contract time.
(2) The Owner's Engineer will not make charges against the contract time prior to the effective date of the notice to proceed.
(3) The Owner's Engineer will begin charges against the contract time on the first working day after the effective date of the notice to proceed.
(4) The Owner's Engineer will not make charges against the contract time after the date of final acceptance as defined in the subsection titled FINAL ACCEPTANCE of Section 105-20(B).
(5) The Contractor will be allowed one week in which to file a written protest setting forth his objections to the Owner's Engineer's weekly statement. If no objection is filed within such specified time, the weekly statement shall be considered as acceptable to the Contractor.

The contract time (stated in the proposal) is based on the originally estimated quantities as described in the subsection titled INTERPRETATION OF ESTIMATED PROPOSAL QUANTITIES of Section 102-06.

Should the satisfactory completion of the contract require performance of work in greater quantities than those estimated in the proposal, the contract time shall be increased in the same proportion as the cost of the actually completed quantities bears to the cost of the originally estimated quantities in the proposal. Such increase in contract time shall not consider either the cost of work or the extension of contract time that has been covered by change order or supplemental agreement and shall be made at the time of final payment.

(b) CONTRACT TIME based on CALENDAR DAYS shall consist of the number of calendar days stated in the contract counting from the effective date of the notice to proceed and including all Saturdays, Sundays, holidays, and non-work days. All calendar days elapsing between the effective dates of the Owner's Engineer's orders to suspend and resume all work, due to causes not the fault of the Contractor, shall be excluded.

At the time of final payment, the contract time shall be increased in the same proportion as the final cost bears to the estimated cost in the proposal. Such increase in the contract time shall not consider either the cost of work or the extension of contract time that has been covered by a change order or supplemental agreement. Charges against the contract time will cease as of the date of final acceptance.

(c) When the contract time is a specified completion date, it shall be the date on which all contract work shall be substantially completed.

If the Contractor finds it impossible for reasons beyond his control to complete the work within the contract time as specified, or as extended in accordance with the provisions of this subsection, he may, at any time prior to the expiration of the contract time as extended, make a written request to the Owner's Engineer for an extension of time setting forth the reasons which he believes will justify the granting of his request. The Contractor's plea that insufficient time was specified is not a valid reason for extension of time. If the Owner's Engineer finds that the work was delayed because of conditions beyond the control and without the fault of the Contractor, he may extend the time for completion in such amount as the conditions justify. The extended time for completion shall then be in full force and effect, the same as though it were the original time for completion.

108-09 FAILURE TO COMPLETE ON TIME:

For each calendar day or working day, as specified in the contract, that any work remains uncompleted after the contract time (including all extensions and adjustments as provided in the subsection titled DETERMINATION AND EXTENSION OF CONTRACT TIME of Section 108-08 the sum specified in the contract and proposal as liquidated damages will be deducted from any money due or to become due the Contractor or his surety. Such deducted sums shall not be deducted as a penalty but shall be considered as liquidation of a reasonable portion of damages that will be incurred by the Owner should the Contractor fail to complete the work in the time provided in his contract.

Permitting the Contractor to continue and finish the work or any part of it after the time fixed for its completion, or after the date to which the time for completion may have been extended, will in no way operate as a waiver on the part of the Owner of any of its rights under the contract.

108-10 DEFAULT AND TERMINATION OF CONTRACT:

The Contractor shall be considered in default of his contract and such default will be considered as cause for the Owner to terminate the contract for any of the following reasons if the Contractor:

(a) Fails to begin the work under the contract within the time specified in the "Notice to Proceed (108-02)"; or
(b) Fails to perform the work or fails to provide sufficient workers, equipment or materials to assure completion of work in accordance with the terms of the contract; or

(c) Performs the work unsuitably or neglects or refuses to remove materials or to perform anew such work as may be rejected as unacceptable and unsuitable; or
(d) Discontinues the prosecution of the work; or
(e) Fails to resume work which has been discontinued within a reasonable time after notice to do so; or
(f) Becomes insolvent or is declared bankrupt, or commits any act of bankruptcy or insolvency; or
(g) Allows any final judgment to stand against him unsatisfied for a period of 10 days; or
(h) Makes an assignment for the benefit of creditors; or
(i) For any other cause whatsoever, fails to carry on the work in an acceptable manner.

Should the Owner's Engineer consider the Contractor in default of the contract for any reason hereinbefore, he shall immediately give written notice to the Contractor and the Contractor's surety as to the reasons for considering the Contractor in default and the Owner's intentions to terminate the contract.

If the Contractor or surety, within a period of 10 calendar days after such notice, does not proceed in accordance therewith, then the Owner will, upon written notification from the Owner's Engineer of the facts of such delay, neglect, or default and the Contractor's failure to comply with such notice, have full power and authority without violating the contract, to take the prosecution of the work out of the hands of the Contractor. The Owner may appropriate or use any or all materials and equipment that have been mobilized for use in the work and are acceptable and may enter into an agreement for the completion of said contract according to the terms and provisions thereof, or use such other methods as in the opinion of the Owner's Engineer will be required for the completion of said contract in an acceptable manner.

All costs and charges incurred by the Owner, together with the cost of completing the work under contract, will be deducted from any monies due or which may become due the Contractor. If such expense exceeds the sum which would have been payable under the contract, then the Contractor and the surety shall be liable and shall pay to the Owner the amount of such excess.

108-GC2 TERMINATION OF CONTRACT FOR NATIONAL EMERGENCIES:
The Owner shall terminate the contract or portion thereof by written notice when the Contractor is prevented from proceeding with the construction contract as a direct result of an Executive Order of the President with respect to the prosecution of war or in the interest of national defense.

When the contract, or any portion thereof, is terminated before completion of all items of work in the contract, payment will be made for the actual number of units or items of work completed at the contract price or as mutually agreed for items of work partially completed or not started. No claims or loss of anticipated profits shall be considered.

Reimbursement for organization of the work, and other overhead expenses, (when not otherwise included in the contract) and moving equipment and materials to and from the job will be considered, the intent being that an equitable settlement will be made with the Contractor.

Acceptable materials, obtained or ordered by the Contractor for the work and that are not incorporated in the work shall, at the option of the Contractor, be purchased from the Contractor at actual cost as shown by receipted bills and actual cost records at such points of delivery as may be designated by the Owner's Engineer.

Termination of the contract or a portion thereof shall neither relieve the Contractor of his responsibilities for the completed work nor shall it relieve his surety of its obligation for and concerning any just claim arising out of the work performed.

SECTION 109 MEASUREMENT AND PAYMENT

Measurement will be in place for the completed work, with no allowance for waste, and as may be more particularly described in the description of the various items set forth in the Standard Specifications and as shown on the plans.

No additional payments will be made for work related to any item unless specifically noted and called for in the Proposal. Payment will be made at the unit price or lump sum price bid in the Proposal.

In addition to the requirements set forth in the ADOT Standard Specifications, no measurement or direct payment will be made for the following work. The cost for such work shall be considered as included in the price of other contract items.

A. Removal and salvage items as called for on the plans, in the Standard Specifications, or these Special Provisions.
B. Removal, salvage and/or re-installation of existing fence lines.
C. Sampling, testing, certification, and other quality control actions.
D. Disposal of surplus, waste or non-salvageable materials.
E. Grading of drainage ditches and drainage excavation not called out on the plans.
F. Preparation and submittal of operation, traffic control, and storm water pollution prevention plans, whether specified herein or required by the other agencies.
G. Obtaining and maintaining any required environmental and/or other permits and licenses.

The quantities set forth in the Proposal are used for the purpose of determining the basis of the award of the Contract, and may be increased or decreased 10% or less by the Owner to conform to the requirements of the work as set forth on the plans, and the Contractor shall agree to perform the work on the basis of the prices bid for the items contained in the Proposal regardless of whether or not the items or units are decreased or increased.

The Owner's Engineer shall have the right to order omitted from the Contract any minor item found unnecessary to the work without violating the Contract or Performance Bond, and without any compensation to the Contractor.

To ensure the Contractor's satisfactory performance of the Contract, progress payments shall be subject to retainage pursuant to A.R.S. §34-221 in the amount of 10% of the approved estimate of the Work performed in the preceding calendar month. When the Work is 50% complete, the retainage shall be reduced to 5% so long as the Contractor is making satisfactory progress. If the Owner determines in writing that the Contractor is not making satisfactory progress at any time, the 10% retainage may be reinstated. In lieu of retainage, the Contractor may post substitute security meeting the requirements of A.R.S. §34-221.

109-01 MEASUREMENT OF QUANTITIES: Per Section 109.01 of the ADOT Standard Specifications unless modified herein.

109-02 SCOPE OF PAYMENT:
The Contractor shall receive and accept compensation provided for in the contract as full payment for furnishing all materials, for performing all work under the contract in a complete and acceptable manner, and for all risk, loss, damage, or expense of whatever character arising out of the nature of the work or the prosecution thereof, subject to the provisions of the subsection titled NO WAIVER OF LEGAL RIGHTS of Section 107-17.

When the "basis of payment" subsection of a specification requires that the contract price (price bid) include compensation for certain work or material essential to the item, this same work or material will not also be measured for payment under any other contract item which may appear elsewhere in the contract, plans or specifications.

Periodic progress payments shall be in accordance with A.R.S. §34-221.

109-03 COMPENSATION FOR ALTERED QUANTITIES:
When the accepted quantities of work vary from the quantities in the proposal, the Contractor shall accept as payment in full, so far as contract items are concerned, payment at the original contract price for the accepted quantities of work actually completed and accepted. No allowance, except as provided for in the subsection titled ALTERATION OF WORK AND QUANTITIES of Section 104-02(A) will be made for any increased expense, loss of expected reimbursement, or loss of anticipated profits suffered or claimed by the Contractor which results directly from such alterations or indirectly from his unbalanced allocation of overhead and profit among the contract items, or from any other cause.

109-04 PAYMENT FOR EXTRA AND FORCE ACCOUNT WORK:
Extra work, performed in accordance with the subsection titled EXTRA WORK of Section 104-02(C), will be paid for at the contract prices or agreed prices specified in the change order or supplemental agreement authorizing the extra work requiring that it be done by force account, such force account shall be measured and paid for as follows:

(a) Labor. For all labor (skilled and unskilled) and foremen in direct charge of a specific force account item, the Contractor shall receive the rate of wage (or scale) for every hour that such labor or foreman is actually engaged in the specified force account work. Such wage (or scale) shall be agreed upon in writing before beginning the work.

The Contractor shall receive the actual costs paid to, or in behalf of, workers by reason of subsistence and travel allowances, health and welfare benefits, pension fund benefits or other benefits, when such amounts are required by collective bargaining agreement or other employment contract generally applicable to the classes of labor employed on the work. An amount equal to 15 percent of the sum of the above items will also be paid the Contractor.

(b) Insurance and Taxes. For property damage, liability and workmen's compensation insurance premiums, unemployment insurance contributions, and social security taxes on the force account work the Contractor shall receive the actual cost, to which cost (sum) 5 percent will be added. The Contractor shall furnish satisfactory evidence of the rate or rates paid for such insurance and taxes.

(c) Materials. For materials accepted by the Owner's Engineer and used, the Contractor shall receive the actual cost of such materials delivered on the work, including

transportation charges paid by him (exclusive of machinery rentals as hereinafter set forth), to which cost (sum) 15 percent will be added.

(d) Equipment. For any machinery or special equipment (other than small tools) including fuel and lubricants, plus transportation costs, the use of which has been authorized by the Owner's Engineer, the Contractor shall receive the rental rates in the current "Blue Book for Construction Equipment".

(e) Miscellaneous. No additional allowance will be made for general superintendence, the use of small tools, or other costs for which no specific allowance is herein provided.

(f) Comparison of Records. The Contractor and the Owner's Engineer shall compare records of the cost of force account work at the end of each day. Agreement shall be indicated by signature of the Contractor and Owner's Engineer or their duly authorized representatives.

(g) Statements. No payment will be made for work performed on a force account basis until the Contractor has furnished the Owner's Engineer with duplicate itemized statements of the cost of such force account work detailed as follows:

(1) Name, classification, date, daily hours, total hours, rate and extension for each laborer and foreman.
(2) Designation, dates, daily hours, total hours, rental rate and extension for each unit of machinery and equipment.
(3) Quantities of material, prices, and extensions.
(4) Transportation of materials.
(5) Cost of property damage, liability and workmen's compensation insurance premiums, unemployment insurance contribution and social security tax.

Statements shall be accompanied and supported by receipted invoice for all materials used and transportation charges. However, if materials used on the force account work are not specifically purchased for such work but are taken from the Contractor's stock, then in lieu of the invoices the Contractor shall furnish an affidavit certifying that such materials were taken from his stock, that the quantity claimed, was actually used, and that the price and transportation claimed represent the actual cost to the Contractor.

The additional payment, based on the percentages specified above, shall constitute full compensation for all items of expense not specifically provided for in the force account work. The total payment made as provided above shall constitute full compensation for such work.

109-05 PAYMENT FOR OMITTED ITEMS:

As specified in the subsection titled OMITTED ITEMS of Section 104-02(B), the Owner's Engineer shall have the right to omit from the work (order nonperformance) any contract item, except major contract items, in the best interest of the Owner.

Should the Owner's Engineer omit to order nonperformance of a contract item or portion of such item from the work, the Contractor shall accept payment in full at the contract prices for any work actually completed and acceptable prior to the Owner's Engineer's order to omit or non-perform such contract item.

Acceptable materials ordered by the contract or delivered on the work prior to the date of the Owner's Engineer's order will be paid for at the actual cost to the Contractor and shall thereupon become the property of the Owner.

In addition to the reimbursement hereinbefore provided, the Contractor shall be reimbursed for all actual costs incurred for the purpose of performing the omitted contract item prior to the date of the Owner's Engineer's order. Such additional costs incurred by the Contractor must be directly related to the deleted contract item and shall be supported by certified statements by the Contractor as to the nature and amount of such costs.

109-06 THRU 109-08 BLANK

109-09 ACCEPTANCE AND FINAL PAYMENT:

When the contract work has been accepted in accordance with the requirements of the subsection titled FINAL ACCEPTANCE of Section 105-20(B), the Owner's Engineer will prepare the final estimate of the items of work actually performed. The Contractor shall approve the Owner's Engineer's final estimate or advise the Owner's Engineer of his objections to the final estimate which are based on disputes in measurements or computations of the final quantities to be paid under the contract as amended by change order or supplemental agreement. The Contractor and Owner's Engineer shall resolve all disputes (if any) in the measurement and computation of final quantities to be paid within 30 calendar days of the Contractor's receipt of the Owner's Engineer's final estimate. If, after such 30-day period, a dispute still exists, the Contractor may approve the Owner's Engineer's estimate under protest of the quantities in dispute and such disputed quantities shall be considered by the Owner as a claim in accordance with the subsection titled CLAIMS FOR ADJUSTMENT AND DISPUTES of Section 105-21.

After the Contractor has approved, or approved under protest, the Owner's Engineer's final estimate, final payment will be processed based on the entire sum, or the undisputed sum in case of approval under protest, determined to be due the Contractor less all previous payments and all amounts to be deducted under the provisions of the contract. All prior partial estimates and payments shall be subject to correction in the final estimate and payment.

Contractor shall provide an executed Affidavit of Release of Liens and an Affidavit of Payment to the Owners Engineer prior to the release of the final payment.

If the Contractor has filed a claim for additional compensation under the provisions of the subsection titled CLAIMS FOR ADJUSTMENTS AND DISPUTES of Section 105-21 or under the provisions of this subsection, such claims will be considered by the Owner in accordance with local laws or ordinances. Upon final adjudication of such claims, any additional payment determined to be due the Contractor will be paid pursuant to a supplemental, final estimate.

SECTION 201 CLEARING AND GRUBBING

Clearing and grubbing shall be in accordance with the requirements of Section 201 of the ADOT Standard Specifcations and as modified herein.

201-3.02 Removal and Disposal of Materials: the second and third paragraphs of the ADOT Standard Specifications are revised to read:

In the disposal of all tree trunks, stumps, brush, limbs, roots, vegetation and other debris, the Contractor shall comply with the requirements of Title 49, Chapter 3, of the Arizona Revised Statutes, and with the Rules and Regulations for Air Pollution Control, Title 18, Chapter 2, Article 6, adopted by the Arizona Department of Environmental Quality pursuant to the authority granted by the Arizona Administrative Code.

Burning of trash, debris, plant material, wood, or any other waste materials will not be allowed.

SECTION 202 REMOVAL OF STRUCTURES AND OBSTRUCTIONS:

Removal of structures and obstructions shall be in accordance with the requirements of Section 202 of the ADOT Standard Specifcations and as modified herein.

202-5 Basis of Payment: the first paragraph of the ADOT Standard Specifications is revised to read:

Payment for the accepted quantities of removal of structures and obstructions will be made by lump sum or by specific removal items or by a combination of both. Payment for removal of structures and obstructions not listed in the bidding schedule, but necessary to perform the construction operations designated on the project plans or specified in the Special Provisions shall be considered as included in the prices of contract items.

When saw cutting is not included as a contract pay item, full compensation for any saw cutting necessary to perform the construction operations designated on the plans shall be considered as included in the price of contract items.

ITEM 2020057 REMOVE AND SALVAGE (GATE):

ITEM 2020058 REMOVE AND SALVAGE (FENCE):

Description:

The work under these items shall consist of removing and salvaging existing fences and gates within the project limits at the locations indicated on the Plans and as specified herein.

Construction Requirements:

Removing and salvaging of fences and gates shall be performed in accordance with the requirements of Subsection 202-3.01 of the ADOT Standard Specifications.

The Contractor shall remove the fences and gates carefully to avoid any damages to the fences and gates. Fence and gate components damaged by the Contractor during removal shall be

replaced by the Contractor at no additional cost to the Owner. Salvaged fence and gates shall be reused for construction at the locations indicated on the Plans and in these Special Provisions. Excess and broken fence and gate compoents shall become the property of the Contractor and disposed of off the project site.

Method of Measurement:

Removal and salvage of fence will be measured by the linear foot.

Removal and salvage of gates will be measured by the unit for each gate removed and salvaged.

Basis of Payment:

The accepted quantities of removal and salvage of fence, measured as provided above, will be paid for at the contract unit price per linear foot, which price shall be full compensation for the work, complete in place.

The accepted quantities of removal and salvage of gates, measured as provided above, will be paid for at the contract unit price per each, which price shall be full compensation for the work, complete in place.

ITEM 2020065 REMOVAL OF TREES (GREATER THAN 12" DIAMETER)
ITEM 2020115 REMOVE (TREE) (12" DIAMETER OR LESS)

Description:

The work under this item shall include removing and disposing of the existing trees as shown on the project plans, in accordance with the requirements of Section 201 of the ADOT Standard Specifications and these Special Provisions.

Construction Requirements:

All tree removal personnel shall have a minimum of one-year experience in large tree removal and be supervised at all times by a foreman with a minimum of two years' experience. Background information on all personal associated with this task, along with references that will verify experience, shall be submitted to the Engineer at the pre-construction meeting.

The Contractor shall cut trees flush with existing grades. All stumps shall be ground to a minimum of three feet below existing grade including the removal of all roots that are at that same elevation below existing grade.

Cavities resulting from the removal of stumps and roots shall be backfilled with material approved by the Engineer. The material shall be compacted to a density of not less than 95 percent of the maximum density as determined in accordance with the requirements of the applicable test methods of the ADOT Materials Testing Manual, as directed and approved by the Engineer.

The Contractor shall coordinate with the Engineer no less than two weeks prior to this work to tag all trees designated for removal.

Upon removal, trees shall become property of the Contractor.

Burning of the removed trees will not be permitted. All tree materials resulting from removal shall be removed from the jobsite during the same work day period. No debris larger than one square inch shall remain after the removal process is completed.

Method of Measurement:

Removal of Trees will be measured by the unit for each.

Basis of Payment:

The accepted quantities of Removal of Trees, measured as provided above, will be paid for at the contract unit price per each, which price shall be full compensation for the work, complete in place, including excavation and subsequent backfill, hauling, cutting, and disposing of the trees, and as shown on the project plans and specified herein.

SECTION 203 EARTHWORK

Earthwork shall be in accordance with the requirements of Section 203 of the ADOT Standard Specifcations and as modified herein.

203-5.03(B)(4) Compaction of Backfill: the first paragraph of the ADOT Standard Specifications is revised to read:

Each layer of structure backfill material shall be compacted to at least 100 percent of the maximum density as determined in accordance with the requirements of the applicable test methods of the ADOT Materials Testing Manual, as directed and approved by the Engineer.

203-5.03(C) Geocomposite Wall Drain: the first sentence of the first paragraph of the Standard Specifications is revised to read:

Geocomposite wall drains shall be installed on the soil side of abutment walls, retaining walls, and culvert wing walls. If shown on the plans, geocomposite wall drains shall also be installed on the soil side of culvert sidewalls.

203-6.01 Description: of the ADOT Standard Specifications is modified to add:

Hand work may be necessary at some locations where equipment is not practical to use.

The removal of all excess material that cannot be reshaped in the area specificied for grading shall become the property of the Contractor.

203-6.04 Method of Measurement: of the ADOT Standard Specifications is revised to read:

203-6.04 Blank

203-6.05 Basis of Payment: the title of the ADOT Standard Specifications is revised to read:

No measurement for payment will be made for grader ditch, the cost being considered as included in the cost of the contract bid item Grading Roadway for Pavement.

203-6.05 Blank

SECTION 205 GRADING ROADWAY FOR PAVEMENT

Grading roadway for pavement shall be in accordance with Section 205 of the ADOT Standard Specifications.

SECTION 207 DUST PALLIATIVE

207-1 Description:

The work under this section shall consist of applying all water required for the control of dust as considered necessary for the safety and convenience of the traveling public, and for the reduction of the dust nuisance to adjacent property.

207-2 Blank

207-3 Construction Requirements:

The use of pressure pumps and spray bars on all sprinkling equipment used for the application of dust palliative will be required. The use of gravity flow spray bars and splash plates will not be permitted.

Water applied for dust control shall be as approved or directed by the Engineer. The Contractor shall provide appropriate equipment for effective control of dust.

207-4 Method of Measurement and Basis of Payment:

No measurement will be made for application of dust palliative, including furnishing water and all necessary equipment and labor, the cost being considered as included in contract items.

SECTION 303 AGGREGATE SUBBASES AND AGGREGATE BASES

Aggregate Base Course shall be Class II in accordance with the requirements of Section 303 of the ADOT Standard Specifcations.

SECTION 403 ASPHALTIC CONCRETE HOT PLANT REQUIREMENTS

Asphaltic Concrete Hot Plant Requirements shall be in accordance with Section 403 of the ADOT Standard Specifications unless modified herein.

403-2 Requirements: the third paragraph of the ADOT Standard Specifications is revised to read:

The mineral admixture shall be added and thoroughly mixed with the mineral aggregate by means of a mechanical mixing device prior to the mineral aggregate and mineral admixture entering the dryer. For all asphaltic concrete mixes except ACFC (Specification Sections 407 and 411) and

AR-ACFC (Specification Section 414), the moisture content of the combined mineral aggregate shall be a minimum of 3 percent by weight of the aggregate during the mixing process. For ACFC and AR-ACFC mixes, the mineral aggregate shall be wet with free moisture on the surface of the aggregate just prior to the mixing process. To ensure that adequate mixing water is available on the surface of the aggregate, the Engineer may require that the mineral aggregate for ACFC and AR-ACFC mixes have a moisture content of up to 1-1/2 percent above the combined water absorption.

403-2 **Requirements:** the twelfth paragraph of the ADOT Standard Specifications is revised to read:

The Contractor shall provide daily documentation of the weight and proportion of each individual component (mineral aggregate, mineral admixture, and bituminous material) incorporated into the mix, within three business days of the production. When a dedicated plant is being used, plant startup waste shall be shown in the hot plant documentation. In addition, when reclaimed asphaltic pavement (RAP) is used, the Contractor shall provide daily documentation of the weight, determined by a calibrated or certified belt scale, and proportion of material from each individual RAP stockpile incorporated into the mix. The percent moisture content of the RAP material from each stockpile shall also be determined and provided daily by the Contractor.

When Warm Mix Asphalt (WMA) technologies are used, the Contractor shall provide the percent of water (for WMA water foaming processes) and/or the percent of WMA additive incorporated in the mix. The percent of each WMA technology shall be reported either by weight of total mix or by weight of total binder.

When incorporating WMA technologies, the hot plant shall be modified as required by the WMA technology manufacturer to introduce the WMA technology. Plant modifications may include additional plant instrumentation, the installation of asphalt binder foaming systems and/or WMA additive delivery systems, adjusting the plant burner and/or the mixing drum flights in order to operate at lower production temperatures, and/or reducing the production rate of WMA.

SECTION 404 BITUMINOUS TREATMENTS

Bituminous Treatments shall be in accordance with Section 404 of the ADOT Standard Specifications unless modified herein.

404-3.12 **Tack Coat:** of the Standard Specifications is revised to read:

Tack coat shall be applied prior to placing a bituminous mixture on a primed surface, an existing bituminous surface, or an existing Portland cement concrete pavement surface. Tack coat shall also be applied between layers of bituminous mixtures. A light coat of bituminous material shall also be applied to edges or vertical surfaces against which a bituminous mixture is to be placed.

The Contractor shall choose the bituminous material to be used for tack coat. The Engineer must approve the Contractor's choice of bituminous material prior to its use.

The bituminous material used for tack coat shall conform to the requirements of Section 1005.

The rate of application for the specific usage will be specified by the Engineer. The following table shows approximate tack coat application rates:

Type of Bituminous Material	Approximate Tack Coat Application Rates: Gallons / Square Yard		Payment Factor
	Prior to Placing ACFC or AR-ACFC	All Other Tack Coats	
Emulsified Asphalt (Special Type) – See Note Below.	Not Allowed	0.12	0.7
Emulsified Asphalt (Other than Special Type)	0.08	0.08	1.0
Asphalt Cement	0.06 to 0.08	0.06 to 0.08	1.0
Note: Emulsified Asphalt (Special Type) shall consist of Type SS-1 or CSS-1 emulsified asphalt diluted with water to provide an asphalt content of not less than 26 percent.			

If emulsified asphalt of any type is used, it shall have broken before the bituminous mixture is placed.

If emulsified asphalt of any type is held over night, it shall be reheated and agitated prior to further application.

The Engineer may either adjust the application rate or, except as specified below, eliminate the use of tack coat in any part of the work if, in the Engineer's judgment, the bituminous mixture to be placed will be effectively bonded to the underlying surface. For asphaltic concrete friction course, asphaltic concrete friction course (asphalt-rubber), or asphaltic concrete (asphalt-rubber), application of the tack coat immediately prior to placing such pavements shall not be eliminated, although the Engineer may adjust the application rate.

Tack coat shall be applied only as far in advance of the placement of the bituminous mixture as is necessary to obtain the proper condition of tackiness. In no event shall more tack coat be applied in one day than will be covered by the bituminous mixture during that same day.

SECTION 409 ASPHALTIC CONCRETE (MISCELLANEOUS STRUCTURAL)

Asphaltic Concrete Pavement shall be in accordance with Section 409 of the ADOT Standard Specifications except as modified herein.

A thickened asphalt edge will be required throughout the project and where new pavement matches existing pavement and shall be constructed per MAG Standard Detail 201, Type A (**See Appendix A**). The cost of constructing each thickened asphalt edge shall be considered included in the cost of Bidding Item No. 409.

409-1 Description: of the ADOT Standard Specifications is revised to read:

The work under this section shall consist of constructing Asphaltic Concrete (Miscellaneous Structural), hereinafter asphaltic concrete, by furnishing all materials, mixing at a plant, hauling and placing a mixture of aggregate materials, reclaimed asphalt pavement (RAP) if used, mineral admixture, and bituminous material (asphalt cement) to form a pavement course or to be used for other specified purposes, in accordance with the details shown on the project plans and the requirements of the specifications, and as directed by the Engineer.

The Contractor shall acquire and make all arrangements for a source or sources of material, furnish a mix design which will meet the design criteria specified hereinafter, and provide all the equipment, materials, and labor necessary to complete the work.

409-2 **Materials:** of the ADOT Standard Specifications is modified to add:

The bidding schedule quantity of asphaltic concrete is based on an estimated unit weight of 145 pounds per cubic foot.

409-2.01 **Mineral Aggregate:** "Carbonates" and "Note (1)" are added to the table following the first paragraph of the ADOT Standard Specifications:

Mineral Aggregate Characteristics	Test Method	Requirement
Carbonates (1)	Arizona Test Method 238	Maximum 20%

(1): Testing for carbonates only applies if either of the following conditions exist:

(a) The asphaltic concrete is the designed final pavement surface normally used by traffic.

(b) The asphaltic concrete, temporary or otherwise, will be subject to traffic for more than 60 days.

409-2.01 **Mineral Aggregate:** the table following the second paragraph of the ADOT Standard Specifications is revised to read:

Mix Design Grading Limits						
Sieve Size	**Percent Passing**					
	Lift Thickness Less Than 1½ Inches		**Lift Thickness 1½ to 2 Inches**		**Lift Thickness Greater Than 2 Inches**	
	Without Admixture	**With Admixture**	**Without Admixture**	**With Admixture**	**Without Admixture**	**With Admixture**
1 Inch					100	100
3/4 Inch			100	100	90 – 100	90 – 100
1/2 Inch	100	100	90 – 100	90 – 100	---	---
3/8 Inch	90 – 100	90 – 100	70 – 85	70 – 85	70 – 85	70 – 85
No. 8	41 – 55	42 – 56	41 – 51	42 – 52	41 – 51	42 – 52
No. 40	9 – 19	10 – 20	---	---	---	---
No. 200	2.0 – 5.0	3.0 – 6.5	2.0 – 5.0	3.0 – 6.5	2.0 – 5.0	3.0 – 6.5

409-2.02 **Bituminous Material:** the first paragraph of the ADOT Standard Specifications is revised to read:

Asphalt cement shall be a performance grade (PG) asphalt binder, conforming to the requirements of Section 1005. **The type of asphalt binder shall be PG 64-28**.

409-2.03 **Mineral Admixture:** the last paragraph of the ADOT Standard Specifications is revised to read:

The certification and acceptance of Portland cement, blended hydraulic cement, and hydrated lime shall be in accordance with ADOT Materials Practice and Procedure Directive No. 13, "Certification and Acceptance of Hydraulic Cement, Fly Ash, Natural Pozzolan, Silica Fume, and Lime".

409-2.04 **Mix Design:** the third and fourth paragraphs of the ADOT Standard Specifications are revised to read:

The mix design shall be prepared by or under the direct supervision of a professional engineer experienced in the development of mix designs and mix design testing. Reclaimed asphalt pavement (RAP) may be used in the mixture if properly designed per Arizona Test Method 833; however, RAP will not be allowed in the mixture when asphalt cement type PG 76-22 TR+ or PG 70-22 TR+ is specified in Subsection 409-2.02. Limits for the usage of RAP shall be per ADOT Materials Practice and Procedure Directive No. 20, “Guidance on the Use of Reclaimed Asphalt Pavement (RAP) in Asphaltic Concrete”. The mix design engineer shall meet the requirements given in ADOT Materials Practice and Procedure Directive No. 4, “Asphaltic Concrete Mix Design Proposals and Submittals”. The mix design shall be provided in a format that clearly indicates all the mix design requirements and shall be sealed, signed, and dated by the mix design engineer.

The mix design shall be prepared by a mix design laboratory that has met the requirements of ADOT Materials Practice and Procedure Directive No. 19, “ADOT System for the Evaluation of Testing Laboratories”.

If approved by the Engineer, as an alternative to meeting the mix design requirements specified herein, a 1/2 inch or 3/4 inch mix design meeting the requirements of either Section 416 or Section 417 of the specifications may be substituted for use. The type of asphalt binder used in the alternative mix design must be the same as that specified in Subsection 409-2.02. The alternative mix design may include reclaimed asphalt pavement (RAP) if properly designed per Arizona Test Method 833. The lift thickness for the alternative mix design shall conform to the following table.

Alternative Mix Design	Minimum Lift Thickness
Section 416 (1/2 inch mix)	1-1/2 inches
Section 416 (3/4 inch mix)	2 inches
Section 417 (1/2 inch mix)	2 inches
Section 417 (3/4 inch mix)	2-1/2 inches

The Contractor may propose the use of a mix design that has been developed for a previous project. The proposed mix design shall meet the requirements of these specifications. The Contractor shall provide evidence that the type and source of bituminous material, the type of mineral admixture, and the source and methods of producing mineral aggregate, and RAP material if applicable, have not changed since the formulation of the previous mix design. The Contractor shall also provide current test results for all specified characteristics of the mineral aggregate, and RAP material if applicable, proposed for use. The Engineer will determine if the previously used mix design is suitable for the intended use and if the previous use of the mix design was satisfactory to the Department. The Engineer will either approve or disapprove the proposed mix design. Should the Engineer disapprove the use of the previously used mix design, the Contractor shall prepare and submit a new mix design proposal in accordance with the requirements of these specifications.

A previously used mix design older than two years from the date it was formulated, sealed, signed, and dated shall not be allowed for use. Once approved for use on a project, a previously used mix design may be used for the duration of that project.

409-2.04 **Mix Design:** the last two paragraphs of the ADOT Standard Specifications are revised to read:

The mix design shall meet the following criteria when tested in accordance with the requirements of the following test methods:

Criteria	Requirement	Arizona Test Method
1. Voids in Mineral Aggregate: %, Range	14.5 – 18.5	(See Note)
2. Effective Voids: %, Range	5.3 – 5.7	(See Note)
3. Absorbed Asphalt: %, Range	0 – 1.0	(See Note)
Note: For mixes without RAP, Arizona Test Method 815. For mixes with RAP, Arizona Test Method 833.		

The Engineer reserves the right to adjust the asphalt content during production from the mix design value without additional compensation to the Contractor in order to obtain desirable effective voids.

409-2.05 Sampling and Testing: of the ADOT Standard Specifications is revised to read:

Sampling and testing the materials and mixture for quality control purposes shall be the Contractor's responsibility. The Contractor shall perform sufficient testing to assure that mineral aggregate and asphaltic concrete are produced which meet all specified requirements. The Engineer reserves the right to sample and test the materials and mixture when necessary to determine that they reasonably conform to the requirements specified herein.

409-3.01 General: the ninth, tenth, eleventh, and twelfth paragraphs of the ADOT Standard Specifications are revised to read:

All wheels and tires of compactors shall be wetted with water, or if necessary soapy water, or a release agent in order to prevent the sticking of asphaltic concrete. All other equipment surfaces shall be treated when necessary with a release agent. Only release agents evaluated through NTPEP are acceptable for use. The results from NTPEP testing, when tested in accordance with AASHTO TP 102, shall meet the following criteria:

RELEASE AGENT TEST	REQUIREMENT
Asphalt Stripping Test Diluted Non-Diluted (Full Strength)	No Stripping No Stripping
Mixture Slide Test	10 g Retained, Max.
Asphalt Performance Test	Less than or equal to 10.0% after the third cycle

Release agents which degrade, dissolve, or in any way damage the bituminous material shall not be used. Diesel fuel shall not be used as a release agent.

Asphaltic concrete immediately behind the laydown machine shall be in a thoroughly mixed, free-flowing, and workable condition, be free of lumps and crusts, and have a minimum temperature of 275 degrees F.

All courses of asphaltic concrete shall be placed and finished by means of self-propelled paving machines except under certain conditions or at certain locations where the Engineer deems the use of self-propelled paving machines impractical.

The speed of the paving machine shall be coordinated with the production of the plant and an adequate number of trucks for hauling asphaltic concrete shall be available in order to achieve, as far as practical, a continuous operation.

Self-propelled paving machines shall spread the mixture within the specified tolerances, without segregation or tearing, true to the line, grade, and crown indicated on the project plans. Pavers shall be equipped with hoppers and augers which will distribute the mixture uniformly in front of adjustable screeds.

409-3.01 General: the seventeenth paragraph of the ADOT Standard Specifications is revised to read:

Before asphaltic concrete is placed, the surface to be paved shall be cleaned of all objectionable material and tacked with bituminous material in accordance with the requirements of Section 404.

409-5.02 Reduction for Noncompliance: of the ADOT Standard Specifications is revised to read:

A reduction in payment to the Contractor for asphaltic concrete will be made for quantities of asphalt cement (bituminous material) that do not meet the requirements of Section 1005 as determined by corresponding test results. Adjustments in payment will be made in accordance with the requirements of Table 1005-1 and the following formula:

$$R = (100 - P)\ x \left[\frac{(CP) x\ T}{100} \right]$$

Where:

R = Amount of Reduction in Payment (dollars)
T = Quantity of asphalt cement in failure (tons, rounded to nearest tenth)
P = Percent of Contract Unit Price allowed (Table 1005-1)
CP = Current Price for asphalt cement (bituminous material), as determined by the Department, for the month in which a deficiency was noted. This value will be posted on the ADOT Contracts and Specifications Section website, on or shortly after the last Wednesday of each month.

SECTION 601 CONCRETE STRUCTURES

Concrete Structures shall be in accordance with Section 601 of the ADOT Standard Specifications except as modified herein.

601-3.02 Falsework and Forms: of the ADOT Standard Specifications is revised to read:

601-3.02 Falsework and Forms:

(A) Design and Drawings:

The Contractor shall be responsible for designing and constructing safe and adequate falsework and forms which provide the necessary rigidity, support the loads imposed, and produce in the finished structure the lines, grades, and dimensions shown on the project plans and established by the Engineer.

The Contractor shall apply the best practice principles available from the current publications of AASHTO's Guide Design Specifications for Bridge Temporary Works and Construction Handbook for Bridge Temporary Works.

Forms shall be any system of structural elements which provide horizontal support or restraint to the lateral pressure of concrete.

Falsework shall be any system of structural elements that provide temporary lateral and vertical support for loads from plastic concrete, forms, reinforcing steel, structural steel, loads from placement operations or other related loads, and continues to provide support until the concrete has attained adequate strength and the structure is capable of self-support. Stay-in-place metal forms for cast-in-place concrete decks are also considered a falsework system.

The design load for falsework shall consist of the sum of dead and live vertical loads, and an assumed horizontal load. The minimum total design load for any falsework shall be not less than 100 pounds per square foot for the combined live and dead load, applied over the area supported, regardless of concrete slab thickness.

Dead loads shall include the weight of concrete, reinforcing steel, forms and falsework. The weight of concrete, reinforcing steel and forms shall be assumed to be not less than 160 pounds per cubic foot for normal concrete and not less than 130 pounds per cubic foot for lightweight concrete.

Live loads shall consist of the actual weight of any equipment to be supported by falsework applied as concentrated loads at the points of contact and a uniform load of not less than 50 pounds per square foot applied over the area supported.

The assumed horizontal load to be resisted by the falsework bracing system shall be the sum of the actual horizontal loads due to equipment, construction sequence or other causes and an allowance for wind, but in no case shall the assumed horizontal load to be resisted in any direction be less than two percent of the total dead load. The falsework shall be designed so that it will have sufficient rigidity to resist the assumed horizontal load without considering the weight of the concrete.

If the concrete is to be prestressed, the falsework shall be designed to support any increased or readjusted loads caused by prestressing forces.
Falsework shall be designed by the working stress design method, and stresses under all loads shall not exceed the maximum allowable stresses provided for in the current edition of AASHTO Guide Design Specifications for Bridge Temporary Works. The maximum allowable stresses provided for in the current National Design Specification (NDS) for wood construction may be used as an alternate to the AASHTO specifications for timber design. The maximum allowable horizontal shear stress in timber shall not exceed 125 pounds per square inch after all applicable modification factors have been applied. No increase in allowable stresses for repetitive member uses will be allowed.

Unless otherwise specified on the plans, deflection of the falsework span due to the weight of concrete only shall not exceed 1/240 of the falsework beam span irrespective of the fact that the deflection may be compensated for by camber strips.

In the case of post-tensioned structures, the falsework deflections shall not produce stresses in the structure at any time prior to post-tensioning greater than 0.8 times the modulus of rupture for plain concrete unless approved by the Engineer.

Falsework over or adjacent to roadways or railroads which are open to traffic shall be designed and constructed so that the falsework will be stable if subjected to impact by vehicles. Falsework posts which support members that cross over a roadway or railroad shall be considered as adjacent to roadways or railroads. Other falsework posts shall be considered as adjacent to

roadways or railroads only if they are located in the row of falsework posts nearest to the roadway or railroad and the horizontal distance from the traffic side of the falsework to the edge of pavement or to a point 10 feet from the centerline of track is less than the total height of the falsework and forms.

The vertical load used for the design of falsework posts and towers, but not footings, which support the portion of the falsework over openings, shall be increased to not less than 150 percent of the design load calculated in accordance with the provisions for design load previously specified.

Falsework posts adjacent to roadways or railroads shall consist of either steel with a minimum section modulus about each axis of 9.5 inches cubed or sound timbers with a minimum section modulus about each axis of 250 inches cubed.

Each falsework post adjacent to roadways or railroads shall be mechanically connected to its supporting footing at its base, or otherwise laterally restrained, so as to withstand a force of not less than 2,000 pounds applied at the base of the post in any direction except toward the roadway or railroad track. Such posts also shall be mechanically connected to the falsework cap or stringer. Such mechanical connection shall be capable of resisting a load in any horizontal direction of not less than 1,000 pounds.

For falsework spans over roadways, all exterior falsework stringers, stringers adjacent to the ends of discontinuous caps, the stringer or stringers over points of minimum vertical clearance, and every fifth remaining stringer, shall be mechanically connected to the falsework cap or framing. Such mechanical connections shall be capable of resisting a load in any direction, including uplift on the stringer, of not less than 500 pounds. Such connections shall be installed before traffic is allowed to pass beneath the span. For falsework spans over railroads, all falsework stringers shall be so connected to caps.

The falsework shall be located so that falsework footings or piles are at least three inches clear of railing posts and barriers and all other falsework members are at least one foot clear of railing members and barriers.

Falsework bents within 20 feet of the center line of a railroad track shall be sheathed solid in the area between 3 and 17 feet above the track elevation on the side facing the track. Sheathing shall consist of plywood not less than 5/8 inch thick or lumber not less than one inch thick (nominal). Bracing on such bents shall be adequate so that the bent will resist the required assumed horizontal force or 5,000 pounds, whichever is greater.

Drawings shall be prepared in accordance with the requirements of Subsection 105.03; Falsework calculations shall be sealed and signed by a professional engineer who is registered as a Civil or Structural Engineer in the State of Arizona.

The drawings shall be complete and fully detailed working drawings showing the dimensions and material for all parts, arrangement, spacing, and connections, and all provisions for adjustment and for measuring displacement. The falsework foundations, any connections or contacts with previously built structures or other works, and the means of protecting such other works from damage shall be detailed. The above data may be presented as convenient either on the drawings or in the design summary, which shall also describe the assumptions and types of calculations used in the design and the stresses and deflections found for critical points. For soffit fill construction, the equivalent of the above drawings and data shall be submitted, and in addition

the source, classification, and compaction requirements for the material and the results of any tests performed on the material. In no case shall the soffit fill be compacted to less than 90 percent compaction, and the top three feet shall be compacted to a minimum of 95 percent compaction when tested in accordance with the requirements of the applicable test methods of the ADOT Materials Testing Manual, as directed and approved by the Engineer. The soffit fill shall be topped with a lean concrete waste slab screeded to the required grades.

Falsework design will require written approval by the Engineer prior to commencing work and shall be in accordance with the requirements of Subsection 105.03.

In the application and design of deck falsework systems, all bridge girders, new or existing, shall be braced or tied to resist any forces that would cause rotation and torsion in the girders caused by the placing of concrete for diaphragms or decks. In lieu of this requirement, the Contractor's professional engineer shall provide sealed calculations to prove the bridge girders are adequate to resist those effects.

Except as provided for on the project plans, supports for deck falsework, forming or screed supports shall not be welded to steel girders, shear connectors, slab ties or girder stirrups.

Modifications of girders to support falsework and forming will not be allowed except as approved by the Engineer. This includes connections of any type in girder webs and flanges to support deck forming. Through-holes of any type in girder flanges will not be permitted. When modification of girders to support the deck falsework and forming has been approved by the Engineer, shop drawings for both the girders and the falsework and forming shall be submitted concurrently so that the review and approval of the drawings can be coordinated.

The tops of the erected girders shall be surveyed by the Contractor in the field prior to placement of the deck forming falsework. The survey shall include girder ends, tenth points, station and offset of survey point locations, or as specified in the project plans. This survey shall be submitted to the Engineer for evaluation. If the top of erected girder elevations are higher than the screed elevations minus the combined deck slab and the buildup thicknesses, adjustments may have to be made in the roadway profile, screed elevations, or girder bearing seat elevations. Encroachment into the deck slab of up to 1/2 inch will be allowed for random occurrences.

(B) Falsework Construction:

(1) General Requirements:

The falsework shall be constructed to conform to the falsework drawings. The materials used in the falsework construction shall be of the quality necessary to sustain the stresses required by the falsework design. The workmanship used in falsework construction shall be of such quality that the falsework will support the loads imposed on the falsework.

The Contractor shall provide temporary bracing for the falsework system to withstand all imposed loads during erection and removal of any falsework. Wind loads must be included in the design of the temporary bracing.

Falsework shall be founded on a solid footing safe against undermining and capable of supporting the loads imposed.

Wedges, screws or jacks shall be used in connection with falsework to set the forms to required grade and uniform bearing prior to placing concrete.

All wedges shall be in pairs to ensure uniform bearing. Laminated sections will not be permitted. If additional material is required under wedges, either single blocks or thicker wedges will be required. A sufficient number of wedges shall be used to cover the entire bearing area.

The Contractor shall provide tell-tales attached to the soffit forms and readable from the ground in enough systematically placed locations to determine the total settlement of the entire portion of the structure where concrete is being placed.

If any signs of distress develop during the placing of the concrete or the falsework shows any undue settlement or distortion, the work shall be stopped and the falsework corrected and strengthened.

(2) Submittals:

The Contractor shall submit to the Engineer the methods and sequences of falsework construction, including all equipment the Contractor plans on using to erect the falsework, and shall certify that the material used to construct the falsework meets the requirements of Subsection 601-3.02(B) (1).

If the Contractor elects to deviate from the superstructure placing diagram shown on the design plans, the Contractor shall submit a superstructure placing diagram showing concrete placing sequence and construction joint locations per the requirements of Subsection 601-3.03(B).

No concrete shall be placed in any forms supported by falsework until the Contractor's professional engineer or their designee has inspected the completed falsework, and the Contractor's professional engineer has issued a properly sealed and signed certificate that the falsework has been constructed according to the approved falsework drawings.

(3) Material:

When timber members are used to brace falsework bents which are located adjacent to roadways or railroads, all connections for such timber bracing shall be of the bolted type using 5/8 inch diameter or larger bolts, or shall be connected in a manner that will equal 100 percent capacity of the smaller member connected.

(4) Welding:

All field welds must be performed by an AWS certified welder. Contractors must submit copies of current AWS certification for all welders to the Engineer before any field welding begins.

Field welding and inspection of field welding must comply with the requirements of the most recent edition of the ANSI/AWS Structural Welding Code - Steel.

(C) Forms Construction:

(1) General Requirements:

Forms shall be of wood, metal or other suitable material conforming to the requirements specified herein. Forming plans for cast-in-place bridge girders shall be prepared in accordance with the requirements of Subsection 105.03.

The forms shall be mortar tight and shall be designed, constructed, braced and maintained so that the finished concrete will be true to line and elevation and will conform to the required dimensions and contours. They shall be designed to withstand the pressure of concrete with consideration given to rate of concrete placement, temperature of the concrete, use of set-retarding admixtures or pozzolanic materials in the concrete, the effects of vibration as the concrete is being placed and all loads incidental to the construction operations, without distortion, or displacement.

Stay-in-place forming shall not be used unless specified on the plans or approved by the Engineer. Expanded metal mesh may be used to form construction joints provided three-inch cover is maintained. The use of expanded metal mesh in bridge decks is prohibited.

Forms to be reused shall be maintained at all times in good condition as to accuracy of shape, strength, rigidity, mortar-tightness and smoothness of surface. Forms or form lumber unsatisfactory in any respect shall not be used.

Forms shall be constructed so that portions may be removed without disturbing forms that are to remain. Forms to be used when a Class II finish or ornamental work is required shall be constructed of metal, fiberglass coated panels, or plywood. All form joints shall be taped or caulked in an acceptable manner. Forms for this work shall be equivalent to first class pattern work.

Forms shall be filleted 3/4 inch at all exposed, sharp corners of the concrete, unless otherwise noted in the plans.

All forms shall be treated with an approved form release agent before concrete is placed. Any material which will adhere to or discolor the concrete shall not be used.

Forms shall be cleaned of all dirt, sawdust, water and other foreign material prior to placing concrete in the forms.

For narrow walls and columns where the bottom of the form is inaccessible, provisions shall be made for cleaning out extraneous material immediately before placing the concrete. The cells of box girders shall be cleared of all loose materials prior to the completion of deck forming when such forming is to remain in place. When the deck forming is to be removed, the cells of the box girders shall be cleared of all loose materials after removal of the forms.

(2) Wood Forms:

All lumber used for forms shall be free from defects affecting the accuracy of shape, strength, rigidity, mortar-tightness and smoothness of the surface. All lumber for forms above stream bed shall be plywood. All form lumber shall be securely fastened to the studding so that cupping cannot occur. Chamfer strips shall be of selected material dressed to true line and uniform dimensions. The interior surfaces of all forms in contact with concrete surfaces which will be exposed in the finished work shall be smooth and even. No uneven or offset joints or single boards projecting so that their impressions are left in the concrete will be allowed. Forms, as far

as practicable, shall be so constructed that the form marks will conform to the general lines of the structure. In general, grain of the lumber and direction of side joints shall be horizontal on wide faces and walls and vertical on narrow faces. If varying widths of panels are used, the wider panels shall be placed on the bottom and the narrower ones near the top. Panel end joints shall be staggered not less than three feet. Spreaders made of wood shall not be left in the concrete.

(3) Metal, Fiberglass and Other Forms:

The same provisions as specified under wood forms shall apply to metal and fiberglass forms and in addition, the following shall apply:

All bolts and rivet heads shall be countersunk. Clamps, rods, pins or other connecting devices shall be designed to hold the forms rigidly together and allow removal without injury to the concrete. Forms which do not present a smooth surface or are not properly aligned shall not be used.

Care shall be exercised to keep the forms free of dust, grease, or other foreign matter which will tend to discolor the concrete.

Metal forms shall be used for the casting of precast I-beams, box beams, and voided or flat slabs where the contract number of units combined dictates production runs equal to or longer than the precasting bed length. A limited number of units, having a total combined length at least one unit length less than bed length, may be cast with alternate forms, as approved by the Engineer. Dimensional tolerances using alternate forms shall conform with Subsection 601-4.02 (B).

Waste slabs used as a part of the forms shall be finished to the appropriate grade including any camber. The finished slab shall not vary more than 1/4 inch from the theoretical grade nor more than 1/4 inch from a 10 foot straightedge in any direction.

(4) Internal Cells:

Internal cells or voids in pre-cast box beams shall be constructed with either wood forms conforming to Subsection 601-3.02(C) (2), or with solid expanded polystyrene.

When solid expanded polystyrene is used, the entire top surface of the polystyrene of the internal void shall be covered with 3/8 inch thick, exterior-grade plywood. Butt joints of the plywood sections shall be at least two feet away from any joined section of polystyrene. Polystyrene sections shall be securely held together by an adhesive recommended by the manufacturer of the polystyrene.

All wood forms or polystyrene/plywood sections shall be securely held in place by nails, waterproof adhesive, or other means approved by the Engineer. Internal cells shall be completely sealed so no plastic concrete is allowed to enter the formed cell.

(D) Removal of Falsework and Forms:

(1) General Requirements:

No falsework or forms shall be relieved of load and no forms shall be removed without approval of the Engineer.

Falsework, excluding bridge deck cantilevered overhangs for cast-in-place prestressed structures, shall not be removed until after the prestressing steel has been tensioned and a minimum of 72 hours after the prestressing steel has been grouted. Falsework for the cantilevered bridge deck overhang shall be removed prior to prestressing but shall not be removed within seven days of concrete placement unless the concrete has attained a minimum compressive strength of 3,000 pounds per square inch. In no case shall falsework be removed within five days of concrete placement. On bridges with both transverse and longitudinal stressing the deck or overhang falsework shall not be removed until after the transverse prestressing has been completed unless shown otherwise on the plans. The deck overhang falsework shall then be removed prior to performing the longitudinal prestressing.

Falsework for cast-in-place non-prestressed structures or composite superstructures, excluding concrete above the bridge deck, shall not be removed until either:

(1) At least 10 days after the last concrete has been placed in each continuous span and until the compressive strength of all placed concrete has attained at least 70 percent of the required 28-day compressive strength; or
(2) At least five days after the last concrete has been placed in each continuous span and until the concrete has attained the required 28-day compressive strength.

The sloped exterior girders of cast-in-place box girder bridges shall be laterally braced or supported until the top slab (deck) concrete has been placed and has attained at least 70 percent of the required 28-day compressive strength.

Side forms for footings, beams, girders, box culverts, columns, railings, curbs or other members wherein the forms do not resist dead load bending may be removed after the concrete has set, and the Contractor shall cure and protect the concrete thus exposed in accordance with the requirements of Section 1006. The Contractor shall assume all risks and responsibility resulting from such removals. Forms for cast-in-place concrete, unless otherwise specified herein, shall not be removed until at least seven days after concrete has been placed in the forms, without the approval of the Engineer.

Placement of backfill material shall be in accordance with Subsection 203-5.03 (B). Where backfill is to be placed against both sides of a structural element, the backfill elevations on one side of the element shall not exceed the backfill elevations on the opposite side of the element by more than five feet.

Forms for precast concrete shall stay in place a minimum of eight hours.

The period of time between the placement of concrete in the top slab of a standard concrete box culvert (12 foot span or less) and the removal of the slab support forms may be reduced to 48 hours if the top slab remains supported along the center line of the culvert span by a continuous beam and line of posts erected as a part of the original slab form, and which will remain in place, undisturbed, a minimum of seven days.

If the Engineer allows the removal of forms before the specified curing period has elapsed, the Contractor shall cure the concrete for the remaining required curing time by one of the methods specified in Section 1006.

Forms for cast-in-place concrete above the bridge decks that require a Class II finish may be removed after the concrete has set, providing the required surface finishing of the concrete is completed within four days. If finishing cannot be completed within four days, the forms shall remain in place for seven days.

All forms shall be removed, except forms used to support the deck of box girders when no permanent access to the cells is available.

Care shall be taken in removing falsework and forms so as not to deface or damage the structure. Methods of removal likely to damage or cause overstressing of the concrete shall not be used.

All falsework shall be removed from under bridge superstructures prior to opening the structure to traffic. Falsework shall be removed in such a manner that excessive stresses are not induced into the structure. Holes shall not be drilled into the structure to facilitate removal of the falsework. Round blockouts may be used for such purpose providing the Contractor can submit evidence that the blockouts are not detrimental to the structure and the Engineer approves the use of the blockouts. The maximum blockout diameter shall not exceed six inches.

(2) Submittals:

The Contractor shall submit to the Engineer, prior to a pre-activity meeting, the methods and sequences of falsework removal, including all equipment the Contractor plans to use in removing the falsework. The falsework removal sequence shall consider load transfer when portions of the falsework have been removed, and the load is being carried by still in-place falsework. The falsework removal plan shall be reviewed and approved by a qualified person selected by the Contractor before submission to the Engineer. A qualified person, as defined by OSHA, is one who by possession of a recognized degree, certificate, or professional standing, or who by extensive knowledge, training, and experience, has successfully demonstrated their ability to solve or resolve problems relating to the subject matter, the work, or the project. The Contractor shall submit documentation of that person’s status as the qualified person to the Engineer. No falsework removal shall take place until the Contractor’s approved falsework removal plan has been reviewed by the Engineer.

The falsework removal plan shall include a hazard assessment, shall identify the Contractor’s safety superintendent, and shall include plans to secure the area underneath the falsework and adjacent areas, including work zones and roadways that are within the potential fall zone of any equipment or falsework components while removal operations take place. No personnel shall be permitted under the falsework suspended by a hoisting system, unless the falsework components are secured by an additional temporary load support system. The Contractor’s safety superintendent will be responsible for the safety of all personnel allowed into the area beneath and adjacent to falsework during falsework removal activities.

A pre-activity meeting shall occur prior to any falsework removal. During the pre-activity meeting, the Contractor shall provide the Engineer any necessary changes to the falsework removal plan, the area needed for falsework removal, and any impact the falsework removal will have on public safety, project schedule, traffic, and project activities not related to falsework removal.

601-3.03(C) Pumping Concrete: of the ADOT Standard Specifications is modified to add:

Where freeze-thaw durability is of concern (such as in bridge decks, overlays, approach slabs, and barrier walls), the concrete shall be sampled at the supply truck and the point of placement to determine air loss through the pump. If the loss of air, as measured between the supply truck and the point of placement, exceeds two percent, the Contractor shall employ measures acceptable to the Engineer to reduce the loss of air to less than two percent. Sampling and testing shall be performed in accordance with Subsection 1006-7.02.

601-3.05(D) Finishing Bridge Deck: of the ADOT Standard Specifications is revised to read:

(1) General:

Bridge decks that will be covered with a special riding surface or waterproofing membrane shall be lightly textured with a burlap drag during the plastic concrete state, after the finishing operation and smoothness test, as specified below, and prior to the curing process. Bridge decks exposed directly to traffic shall be grooved or tined as specified in Subsection 601-3.05(D)(2).

The finishing operation shall be completed before the water sheen disappears. The deck surface shall be finished to a smooth floated surface, free of mortar ridges, hollows, and any other projections. Water shall not be applied to the deck surface at any time during floating or finishing except that a fine fog mist may be applied as approved by the Engineer.

Fogging equipment shall be capable of applying water to the concrete in form of a fine fog mist in sufficient quantity to curb the effects of rapid evaporation of mixing water from the concrete. The fine fog mist shall be applied at a distance not to exceed 12 inches from the surface. Application by brushes or any other method that concentrates water will not be permitted.

Excess concrete, mortar, or paste produced by the finishing process shall not be discarded into areas of the bridge deck that will be covered by sidewalks, medians, curbs, or parapets, or otherwise incorporated into the work, but shall be removed and disposed of properly.

The finished surface of the concrete shall be tested with a 10 foot straightedge placed on the deck surface. For deck surfaces exposed directly to traffic, the surface plane shall not vary by more than 1/8 inch, as measured from the bottom of the straightedge. Deck surfaces to be covered with a special riding surface or waterproofing membrane shall not vary by more than 1/4 inch, as measured from the bottom of the straightedge.

Deck surface areas tested during the plastic state that do not meet the smoothness criteria specified above shall be corrected immediately, refinished, and retested. All corrected areas shall be textured to match the finish of the surrounding deck surface.

Should the deck surface require additional corrections or repair after the concrete has cured, as determined by the Engineer, such work shall be in accordance with Subsection 105.04. If the bridge deck corrections require mechanical grinding, all corrected areas shall be re-textured with sawed grooves to match the finish of the surrounding deck surface. After such corrective grinding and re-grooving is completed, the minimum remaining cover over the reinforcing steel shall be not less than 2 1/4 inches.

(2) Grooving and Tining:

(a) General Requirements:

Unless longitudinal grooving is specified on the plans, the Contractor shall texture the bridge deck, approach slab, and anchor slab with transverse grooves.

Grooves shall be placed with tine brooming while the concrete is still plastic; however, if an item for Bridge Deck Texturing (Sawed Grooves) is included in the bidding schedule, the bridge deck, approach slab, and anchor slab shall be textured with sawed grooves after the concrete has been cured.

A uniform textured surface of grooves shall be installed for the entire length of the bridge deck, approach slabs, and anchor slabs, except for those areas occupied by devices installed on the deck.

Widened bridge decks shall be finished to match the existing deck surface texture.

Bridge sidewalks shall be textured to a light broomed finish during the plastic concrete state.

(b) Tine Brooming:

Tine broom texturing shall occur after the Engineer has accepted the smoothness of the finished surface, and during the plastic concrete state, but prior to the curing process.

The tined grooves shall terminate at 12 inches $\pm$ 3 inches from the face of curbs, bridge rails or median dividers along each edge of the bridge deck surface. Texturing shall be stopped 9 inches to 12 inches from any devices installed on the bridge deck, including scuppers and expansion devices, whether perpendicular to the tined grooves or skewed.

The apparatus producing the texture grooves in the plastic concrete shall be mechanically operated from an independent self-propelled bridge. The bridge shall be used for texturing only, and shall be supported on the same steel rails used for the screed equipment. The tine brooming equipment shall be capable of producing grooves which meet the dimensional requirements specified in Subsection 601-4.01.

The timing of the texture operation in the plastic concrete is critical. The texturing shall be completed before the surface is torn or unduly roughened by the texturing operation. Grooves that close following the texturing will not be permitted.

Hand tine brooms shall be provided and available at the job site at all times when texturing plastic concrete.

(c) Sawed Grooves:

(1) General:

Sawed groove texturing shall occur after the Engineer has accepted the finished surface, and after the concrete has cured for at least seven days, but before the roadway is opened to traffic.

Grooving shall occur prior to the application of any concrete sealer if a sealer is specified in the contract documents.

A self-propelled texturing machine built for grooving of concrete surfaces shall be used for making the sawed grooves. The saw grooving equipment shall be capable of producing grooves which meet the dimensional requirements specified in Subsection 601-4.01.

Sawed groove texturing shall terminate at 12 inches $\pm$ 3 inches from the face of curbs, bridge rails or median dividers along each edge of the bridge deck surface. Texturing shall be stopped 9 inches to 12 inches from any devices installed on the bridge deck, such as scuppers and expansion devices that are perpendicular to the grooves.

For skewed expansion devices on the bridge deck, the direction of the grooves as specified above shall not be altered, and texturing shall terminate no closer than six inches nor farther than four feet from the joint armor. The maximum gap in texturing, from one side to other of skewed expansion devices, shall not exceed five feet.

Overlapping of grooves by succeeding passes will not be permitted.

(2) Equipment:

The self-propelled texturing machine shall have diamond-tipped circular saw blades mounted on a multi-blade arbor, and shall have a depth control device that detects variations in the deck surface and adjusts the cutting head height to maintain the specified depth of the groove. The texture machine shall also include devices to control alignment. Single blade equipment may be authorized by the Engineer where multi-blade assemblies are not capable of sawing to within one foot of obstructions. Flailing or impact type grooving equipment shall not be used.

The grooving equipment shall be equipped with vacuum slurry pickup equipment which shall continuously pick up water and sawing dust, and pump the slurry to a collection tank.

(3) Construction:

The Contractor shall submit a plan detailing the proposed layout of the texturing to the Engineer for approval at least seven days prior to the grooving operations. Spacing dimensions at the starting and ending point of each pass shall be noted. A description of the saw cutting equipment shall be included.

Prior to grooving operations, the Contractor shall provide two gauges, designed for verification of groove depth, to the Engineer for approval. The gauges shall be accompanied by the manufacturer's instructions for their use. During grooving operations the Contractor shall check the groove dimensions, under the observation of the Engineer, at random locations. If the minimum groove depth has not been achieved, the grooving operation shall stop and the necessary adjustments shall be made.

At the beginning of each work shift, the Contractor shall furnish a full complement of saw blades for each texturing machine that are capable of cutting grooves of the specified width, depth, and spacing.

If during the work a single grooving blade on a machine becomes incapable of cutting a groove, the Contractor shall continue work for the remainder of the work shift. The Contractor will not be required to cut the groove omitted resulting from the failed blade. If two or more grooving blades on a machine become incapable of cutting grooves, the Contractor shall cease operating the machine until it is repaired.

The Contractor shall continuously remove all slurry from the equipment throughout the grooving operations with a vacuum pickup, and shall dispose of the slurry at an approved off-site location, and in accordance with applicable laws and ordinances for disposal. All textured areas shall be flushed with clear water as soon as possible to remove any slurry material not collected by the vacuum pickup. Flushing shall be continued until all surfaces are clean and accepted by the Engineer.

The Contractor shall repair all damage to the expansion devices caused by the grooving operation in a manner satisfactory to the Engineer. If the Engineer determines that the expansion device cannot be repaired in a manner which will allow proper functioning of the system, the Contractor shall replace the device at no additional cost to the Department. The replacement shall be a new expansion device equal in all respects to the expansion device being replaced.

Damage to any other portion of the bridge deck, or to anything attached or embedded in the bridge deck, that is attributable to the Contractor's operations shall be repaired in a manner satisfactory to the Engineer at no additional cost to the Department.

601-3.07 Supporting, Handling, and Transporting Precast Concrete Items: the title and text of the ADOT Standard Specifications are revised to read:

601-3.07 Supporting, Handling, Transporting, and Erecting Precast Concrete Items:

(A) General:

After prestressing, precast members for major structures shall be handled or supported at or near the final bearing points for storage.

Precast items shall be supported during transporting in a manner that will allow reasonable conformity to the proper bearing points. At all times, the items shall be handled or supported securely in an upright position.

Items that have been damaged in shipment will be rejected at the point of delivery.

Lifting devices shall not project above the surface of the item after placement unless they will be embedded in a subsequent concrete pour, will have a minimum concrete cover of two inches, and will not interfere with the placement of reinforcing steel or concrete.

(B) Bridge Girder Erection:

Girders shall be placed accurately on bearings to avoid creating eccentricities capable of initiating imbalance.

Girders with shapes that exceed a height to width ratio of two shall be temporarily braced. The girder width shall be determined from the outside dimension of the bottom flange.

The Contractor shall secure such girders in position on the structure with temporary lateral bracing to resist loads as specified in the AASHTO Guide Design Specifications for Bridge Temporary Works. Lateral bracing shall be designed to allow for girder temperature movements. The bracing shall be placed prior to the release of the erection equipment from each girder.

Prior to erection of any girders, the Contractor shall provide a lateral bracing plan, prepared and sealed by a professional engineer registered in the State of Arizona, for the Engineer's review. Such bracing plan shall be included with the working drawings specified in Subsection 105.03, and shall include supporting calculations. A girder pre-erection meeting will be scheduled following the review and prior to erection of any girders. All parties involved in the installation shall be represented, and no girders shall be placed until the plan has been approved.

No traffic shall be allowed under each newly erected girder until the girder has been laterally braced.

Temporary bracing shall remain in place until after permanent concrete diaphragms are installed at the bents, or the girder is integrated with a permanent feature that restricts the girder's lateral movement.

601-4.01 Surface Texture: of the ADOT Standard Specifications is revised to read:

The grooves for decks exposed directly to traffic shall be rectangular in shape and shall be 1/8 inch ± 1/32 inch deep by 1/8 inch ± 1/32 inch wide. Spacing of the grooves shall be 3/4 inches ± 1/8 inch center to center. The textured groove depth will be measured in accordance with the requirements of Arizona Test Method 310.

601-5 Method of Measurement: the last paragraph of the ADOT Standard Specifications is revised to read:

No measurement or direct payment will be made for texturing of the bridge deck with a burlap drag or by tine brooming, the cost being considered as included in contract items.

Bridge Deck Texturing (Sawed Grooves), when included in the bidding schedule, will be measured to the nearest square yard. The area will be determined by the length of the bridge, approach slabs, and anchor slabs, multiplied by the width of the roadway between the face of curb or bridge rail on each side, less 2.0 feet. The quantity shown on the bidding schedule shall be considered final and will not be re-measured unless changes are specified by the Engineer, or if the Engineer or Contractor determines that the constructed area varies by an amount greater or less than two percent of the quantity shown on the bidding schedule. Such adjustments, if required, shall be in accordance with Subsection 104.02.

No measurement or direct payment will be made for the temporary bracing of erected girders, or for preparation of the girder bracing plan, the costs being considered as included in contract items.

601-6 Basis of Payment: of the ADOT Standard Specifications is modified to add:

The accepted quantities of sawed groove texturing, measured as provided above, will be paid for at the contract unit price, complete in place, including all labor, tools, equipment and incidentals.

SECTION 604 STEEL STRUCTURES

Steel Structures shall be in accordance with Section 604 of the ADOT Standard Specifications except as modified herein.

604-3.01 Shop and Working Drawings: of the ADOT Standard Specifications is revised to read:

The Contractor shall prepare shop and working drawings for submittal in accordance with the requirements of Subsection 105.03 of the ADOT Standard Specifications. The submittal shall allow sufficient time for review based on the days identified in Subsection 105.03 of the ADOT Standard Specifications, within the Contractor's schedule of work.

Working drawings for steel structures shall show complete fabrication and erection details including full detailed dimensions and sizes of component parts of the structure and details of miscellaneous parts such as pins, nuts, bolts, and rivets.

604-3.02 Fabrication: of the ADOT Standard Specifications is revised to read:

Fabrication of all metal for steel structures shall be in accordance with the approved shop drawings and shall conform to the requirements of Section 11, Steel Structures, of AASHTO LRFD Bridge Construction Specifications, except as specified herein.

The structural steel fabrication plant shall be certified under the AISC Quality Certification program to the standard and supplemental requirements for the type of work being performed. The following categories are defined under the AISC Quality Certification program:

Certified Bridge Fabricator - Simple (SBR)
Certified Bridge Fabricator - Intermediate (IBR)
Certified Bridge Fabricator - Advanced (ABR)
Certified Bridge Manufacturer – Component (CPT)

Fracture Critical members must be fabricated at a plant that has acquired an AISC Fracture Critical Endorsement (FCE).

Fabrication of steel components shall not begin until arrangements have been made for shop inspection.

In planing the surfaces of expansion bearings, the cut of the tool shall be in the direction of expansion.

604-3.04 Shop Inspection: of the ADOT Standard Specifications is revised to read:

For shop inspection of structural steel fabrication, the Contractor shall provide two written notifications to the Engineer, as follows:

(a) First written notification shall be submitted at least 60 days prior to beginning work in the shop per the requirements listed herein, and in Subsections 604-3.02. The first written notification shall include:

1) The name and address of the fabricator
2) The approximate fabrication schedule.
3) A description of the work to be fabricated.

Approved shop drawings are not required at the time of the first written notification, but are required before fabrication begins. Upon notification, the Engineer will contact ADOT Bridge Group to arrange for an inspector to be assigned to perform the steel shop inspection.

(b) Second written notification shall be submitted at least seven working days prior to beginning work in the shop in order for ADOT Bridge Group to schedule the shop inspection.

The Contractor shall furnish all facilities for the inspection of material and workmanship in the shop in accordance with the requirements of Subsection 106.06 of the ADOT Standard Specifications.

Inspection at the shop is intended as a means of facilitating the work and avoiding errors, and it is expressly understood that it will not relieve the Contractor from any responsibility in regard to defective material or workmanship and the necessity of replacing defective material or doing the work again. Reinspection costs incurred by the Department due to Contractor errors shall be reimbursed by the Contractor.

SECTION 701 MAINTENANCE AND PROTECTION OF TRAFFIC

Maintenance and protection of traffic shall be in accordance with Section 701 of the ADOT Standard Specifications except as modified herein.

701-4 Method of Measurement: of the ADOT Standard Specifications is revised to read:

No measurement shall be made for Maintenance and Protection of Traffic. The contract unit of measurement shall be lump sum.

701-5 Basis of Payment: of the ADOT Standard Specifications is revised to read:

Payment for Maintenance and Protection of Traffic shall be lump sum and shall be full compensation for all work necessary to provide Maintenance and Protection of Traffic.

SECTION 803 LANDSCAPE PLATING MATERIALS

Landscape plating materials shall be in accordance with Section 803 of the ADOT Standard Specifications except as modified herein.

803-1 Description: of the ADOT Standard Specifications is revised to read:

The work under this section consists of the following:

- Eradicating existing grasses and weeds by mechanical methods.

- Grading surfaces upon which granite mulch and decomposed granite shall be placed to ensure proper drainage.
- Furnishing, placing, and compacting granite mulch and decomposed granite, which shall include all excavation and backfilling.
- Maintaining these areas free of weeds and trash/debris during the construction and landscape establishment phases of the project.

All work under this section shall be completed in accordance with the details shown on the Project Plans and the requirements of these Specifications.

803-2.02 **Decomposed Granite and Granite Mulch:** of the Standard Specifications is modified to add:

Decomposed granite shall be 3/4" screened.

The salvage and reuse of existing decomposed granite from the project area will not be allowed. All decomposed granite shall be new.

The colors for the decomposed granite shall be as shown in the tables below. No decomposed granite or substitute decomposed granite shall be used on the project until the color and source have been approved by the Owner. Each decomposed granite type shall come from a single source to ensure uniformity of color.

Decomposed granite color selections acceptable for use are as follows:

Decomposed granite:

COLOR	GRANITE NAME	SOURCE
Brown	Express Brown	Granite Express
Brown	Copper Canyon Brown	Kilauea Crushers
Brown	Apache Brown	Pioneer Landscape Materials

The Contractor may propose an alternate color from an alternate source for review and approval by the Owner.

For color verification of the specified color and/or for approval of an alternate color, the Contractor shall provide a 5-gallon bucket material sample for review.

Decomposed Granite supplied for use on the project shall meet the gradation requirements as shown in the following table:

3/4” Screened	
Sieve Size	**Percent Passing**
3/4 inch	100
1/2 inch	45-70
No. 40	5 – 20

803-3 **Construction Requirements:** of the Standard Specifications is modified to add:

Granite to be used on the project and all granite samples prior to placement on the job site shall meet the following requirements:

- Copy of the environmental permit for each granite source pit.
- The cost for any approved alternate decomposed granite color will be paid for at the contract bid price.
- The Contractor shall provide a 5-gallon bucket sample for each color required on the project and each proposed alternate color.
- Alternate granite samples shall have been approved by the Engineer prior to color submittal and on site placement for review and approval.
- Alternate granite samples shall be submitted a minimum of 14 calendar days prior to granite installation for review and approval.

The granite color review and approval process shall be coordinated by the Contractor with the Owner and requires a 1-week minimum advance notice by the Contractor. All granite colors and color alternates are as approved by the Owner. Granite colors are evaluated by comparison to approved color samples.

The Contractor shall remove all non-planted vegetation from all areas designated to receive decomposed granite (by chemical or mechanical means) and maintain the designated areas "vegetation-free" for a minimum period of 14 calendar days prior to placement of the granite mulch and decomposed granite, or as specified by the Owner.

Prior to placement of the decomposed granite, designated areas to receive decomposed granite shall be completely free of all grass, weeds, or other miscellaneous vegetation growth.

When using herbicides, a pre-emergent herbicide (Gallery, Surflan, Barricade or equivalent) shall be applied to all granite material areas in the manner recommended by the manufacturer to prevent germination of noxious weeds. The Contractor shall comply with all applicable portions of Subsection 803-3.02 of the specifications.

803-3.02 Decomposed Granite and Granite Mulch: of the Standard Specifications is modified to add:

The sub-grade upon which the decomposed granite shall be placed, shall be graded and compacted to promote proper drainage, as approved by the Engineer. The sub-grade shall be compacted to between 85 to 90-percent of the maximum proctor density, as determined in accordance with the requirements of Arizona Test Methods 230 or 235, depending on the test method used to determine the compaction density (Sand Cone or Nuclear Method).

All vehicles used for spreading, grading and raking the decomposed granite shall have one set of wheels with floatation tires having a minimum width of 18-inches to allow equal compaction of the decomposed granite.

Decomposed granite shall be placed to a depth of 2-inches. After rough spreading and rough grading of the decomposed granite within the designated areas, the decomposed granite shall be raked evenly and thoroughly to blend the different gradation sizes.

The use of conveyor belt type equipment for placing decomposed granite shall not relieve the Contractor from the requirements of compacting the granite much.

After placement, the decomposed granite shall be saturated with water to an optimum moisture level as recommended by the supplier. The Engineer will approve the amount of water necessary to aid in the compaction of the decomposed granite, prior to application.

During the final spreading and final grading operations, all surfaces within the decomposed granite areas shall be passed over by the spreading and grading equipment a minimum of 2-times.

Equipment operations for spreading, grading, raking, chemical application, water settling, and any other operations shall be done in a manner that uniformly maximizes the vehicle(s) wheel compaction over the surface area.

The pre-emergent herbicide shall be utilized in the manner recommended by the manufacturer to prevent germination of weeds**/**undesirable plant species, and shall be Gallery, Pendulum AquaCap, Surflan, Dimension, or an approved equal, and shall be applied at a rate based on product information**/**data for best control effects. Pre-emergent herbicide shall also be employed to the designated decomposed granite and granite mulch area, prior to the final water settling operation. Selection of pre-emergent herbicide products shall be based on the type of weeds or undesirable plant species to be treated as evaluated by a Construction Professional Landscape Architect and approved by the Engineer. The first application of pre-emergent herbicide and each subsequent application shall be from different products to optimize the lasting result of designated decomposed granite and granite mulch area.

After placing, spreading and grading the decomposed granite, the Contractor shall water settle the total thickness of the decomposed granite, to remove the fine material from the surface. The water settling operation, noted above, shall be completed by applying water at minimum depth of ½-inch over the decomposed granite placed or as approved by the Engineer.

803-4 Method of Measurement: of the Standard Specifications is modified to add:

Decomposed granite will be measure by the square yard of material in place at the specified thickness. The quantity shown in the Bid Schedule will be used for payment of Item 8030104 – Decomposed granite (3/4” Screened), unless both the Contractor and the Engineer mutually agree that a variation in excess of 10 percent of this quantity exists. If a variation exists, the Engineer will determine the variation based on the project plans and evidence provided by the Contractor. Acceptable form of evidence can be construction survey – such as making field measurements for verification as approved by the Engineer.

803-5 Basis of Payment: of the Standard Specifications is modified to add:

Payment for the accepted quantities of decomposed granite measured as provided above will be made at the contract unit price per square yard, which price shall be full compensation for the work complete in place.

There shall be no separate measurement or direct payment for required or requested samples, grading, compaction, pre-emergent herbicide. The cost for this work is considered to be included in the cost of the contract item.

SECTION 810 EROSION CONTROL AND POLLUTION PREVENTION

Erosion control and pollution prevention shall be in accordance with Section 810 of the ADOT Standard Specifications except as modified herein.

810-2.06(A) General: the first paragraph of the ADOT Standard Specifications is revised to read:

Sediment logs, sediment wattles, and fiber rolls shall be manufactured or constructed rolls of fiber matrix, secured with netting, and used for the purpose of controlling erosion by slowing high flow water velocity and trapping silt sediments. Netting for fiber rolls and sediment wattles shall have a minimum durability of one year after installation, and shall be tightly secured at each end of the individual rolls. All wheat straw used in sediment logs, sediment wattles, and fiber rolls shall comply with the requirements of Subsection 810-2.05(B).

SECTION 901 MOBILIZATION

Mobilization shall be in accordance with Section 901 of the ADOT Standard Specifications except as modified herein.

The Contractor shall be responsible for providing a construction yard and/or staging area as needed for this project at no additional cost to the Owner, the cost being considered included in the cost of contract item 9010001.

901-5 Basis of Payment: of the Standard Specifications is revised to read:

Payment for mobilization, measured as provided above, will be made at the contract lump sum price, which shall be full compensation for supplying and furnishing all materials, facilities and services and performing all the work involved as specified herein.

Partial payments under this item will be made in accordance with the following provisions. Reference herein to the adjusted contract shall mean the original contract amount exclusive of mobilization:

The first payment of the lump sum price for mobilization will be paid after the Preconstruction Conference provided that all submissions required under Subsection 108.03 are submitted by the Contractor at the Preconstruction Conference to the satisfaction of the Engineer. The amount paid for the first partial payment will be in accordance with Table 901-1.

The second payment of the lump sum price for mobilization will be made when the Engineer has determined that a significant amount of equipment has been mobilized to the project site which will be used to perform portions of the contract work. The amount paid for the second partial payment will be in accordance with Table 901-1.

The third payment of the lump sum price for mobilization will be made on the first estimate following completion of 5 percent of the adjusted contract. Such percentage determination will not include partial payments for material on hand. The amount paid for the third payment will be in accordance with Table 901-1.

The fourth payment of the lump sum price for mobilization will be made on the first estimate following completion of 10 percent of the adjusted contract. Such percentage determination will not include partial payments for material on hand. The amount paid for the fourth payment will be in accordance with Table 901-1.

The total sum of all payment shall not exceed the original contract lump sum price for mobilization, regardless of the fact that the Contractor may have, for any reason, shut down its work on the project or moved its equipment away from the project and back again.

TABLE 901-1
AMOUNT ALLOWED FOR MOBILIZATION DURING THE LIFE OF THE CONTRACT

Contract Amount: $	% Of Contract	Basis Of Payment
0 - 5,000,000	12% *	25% of the lump sum price for mobilization or 3% of the original contract amount, whichever is less.
5,000,000 +	10% *	25% of the lump sum price for mobilization or 2.5% of the original contract amount, whichever is less.
* If the price bid for mobilization exceeds this percentage, any excess will be paid to the Contractor upon completion of the contract.		

The adjustment provisions in Section 104 and the retention of funds provisions in Section 109 shall not apply to the item of mobilization.

When other contract items are adjusted as provided in Section 104, and if the costs applicable to such items of work include mobilization costs, such mobilization costs will be considered as recovered by the Contractor in the lump sum price paid for mobilization, and will be excluded from consideration in determining compensation under Section 104.

When mobilization is not included as a contract item, full compensation for any necessary mobilization required will be considered as included in the prices paid for the various contract items involved and no additional compensation will be made.

SECTION 902 CHAIN LINK FENCE

Chain link fence shall be in accordance with Section 902 of the ADOT Standard Specifications.

ITEM 9020251 RECONSTRUCT FENCE GATE FROM SALVAGE

Description:

The work under this item shall consist of reconstructing existing gates from salvage at the locations shown on the project plans and in accordance with these Special Provisions.

Materials:

Materials from existing gates shall be reused when reconstructing gates.

All posts, pipe, fabric or hardware which are deemed by the Engineer to be unsuitable for use in reconstructing the fence gates shall be removed and disposed of as directed by the Engineer. If any of these materials require replacement to complete the fence gate construction, the materials shall be furnished by the Contractor and will be paid for as specified in Subsection 109-04.

New materials shall conform to the requirements of Subsection 902-2 of the ADOT Standard Specifications.

Construction Requirements:

Gates shall be reinstalled in accordance with the requirements of Subsection 902-3 of the ADOT Standard Specifications.

The Contractor may, at its option and at no additional cost to the Owner, construct new fence gates in lieu of constructing fence gates from salvage. If the Contractor elects to construct new fence gates, the fence gate materials originally designated for construction from salvage shall become the property of the Contractor.

Method of Measurement:

Reconstruct fence gate from salvage will be measured per each.

Basis of Payment:

The accepted quantities of reconstruct fence gate from salvage, measured as provided above, will be paid for at the contract unit price per each, which price shall be full compensation for the work, complete in place, including excavation, footing concrete, fittings, hardware and gate bracing.

Any new posts, pipe, fabric or hardware furnished by the Contractor to replace salvaged fence components deemed by the Engineer to be unsuitable for use, will be measured and paid for in accordance with the provisions of Subsection 104-02 (C).

ITEM 9030008 FENCE (SEE FENCE DETAIL, SHEET 6)

Description:

The work under this item shall consist of constructing new fence to the forms, shapes and dimensions shown on the project plans and in accordance with these Special Provisions.

Materials:

Post materials shall conform to the requirements of Subsection 902-2.02 of the ADOT Standard Specifications.

Concrete for post footings shall be utility concrete conforming to the requirements of Section 922 of the ADOT Standard Specifications.

Fittings and hardware shall conform to the requirements of Section 902-2.07 of the ADOT Standard Specifications.

Construction Requirements:

Fence shall be constructed in accordance with the requirements of Subsection 902-3 of the ADOT Standard Specifications.

Welding shall be in accordance with and conform to the requirements of Subsection 604-3 of the Specifications.

Method of Measurement:

Fence will be measured by the linear foot along the top of the completed fence from outside to outside of end posts, excluding the widths of gate openings. Gate posts and latch posts will be considered as included in the measurement of the completed fence.

Basis of Payment:

The accepted quantities of fence, measured as provided above, will be paid for at the contract unit price per linear foot, which price shall be full compensation for the work, complete in place, including excavation, concrete, welding, fittings, and hardware.

ITEM 9031001 TEMPORARY FENCE

Description:

The work under this item shall consist of furnishing, installing, maintaining and removing non-metallic temporary fence at the locations shown on the project plans in accordance with the applicable requirements of Section 903 of the ADOT Standard Specifications and these Special Provisions.

Materials:

Fencing materials shall manufactured using a plastic mesh with minimum opening size of 1.5” and be of a fluorescent color. Height requirement shall be a minimum of 36”.

Metal t’ style posts of sufficient length shall be used to secure the fence materials to their full height and into the ground surface.

Construction Requirements:

Temporary fence shall be erected prior to any construction activities onto private property. The line of temporary fence as indicated on the plans shall be staked or marked out on the ground by the Contractor and approved by the Engineer prior to installation.

Posts shall be securely driven on six foot-maximum centers, normal to the ground, to a depth 1/3 of the total post length. Posts shall be placed in a vertical position.

Fence fabric shall be placed along the side of all posts. Ends of fencing segments shall overlap a distance of at least one half the fence height.

Fencing shall be secured to posts with wire or cable ties at top, middle and bottom of post. Fastener shall be tight enough to prevent the fencing from slipping down. Overlaps shall be securely fastened.

Existing fences that are to remain in place and which have been damaged by the Contractor's operations shall be replaced or restored by the Contractor at no additional cost to the Department.

Fence shall be constructed within the right-of-way and temporary construction easements as shown on the plans.

The Contractor shall maintain the fence immediately after erection and continue until project completion or as directed by the Engineer. Maintenance shall include replacing damaged post(s) and fencing, re-fastening and tightening fencing, and restoring fence to its intended height.

Prior to project completion, the temporary fence shall be removed. Removed fence shall become the property of the Contractor and disposed of offsite. Cavities resulting from the removal of posts shall be backfilled and compacted to the satisfaction of the Engineer.

Method of Measurement:

Temporary Fence will be measured by the linear foot along the ground line of the fence completely installed.

Basis of Payment:

The accepted quantities of temporary fence, measured as provided above, will be paid for at the contract unit price per linear foot, which price shall be full compensation for the work, complete in place, including excavation, backfill, compaction, maintenance, removal and disposal of temporary fence.

ITEM 9050701 W-BEAM & POST RAILING (TXDOT TYPE T631LS)

Description:

The work under this item shall consist of furnishing and installing w-beam and post railing type T631LS and rounded w-beam end sections in accordance with the requirements of the plans and these special provisions.

Materials:

Structural steel material shall conform to ASTM 588 Grade 50, ASTM A847 Grade 50W and ASTM A709 Grade 50W and be supplied in accordance with and conform to the material requirements of Subsection 604-2 of the Specifications and the requirements of the Project Plans.

All steel components for the traffic rail shall utilize weathering steel.

Anchor bolts shall conform to ASTM F1554 Grade 105.

High-strength bolts shall be ASTM A325 Type 3 with A563 grade DH3 nuts and F436 Type 3 washers supplied in accordance with and conforming to the material requirements of Subsection 604-2 of the Specifications and the requirements of the Project Plans.

Welding shall be in accordance with and conform to the requirements of Subsection 604-3 of the Specifications.

Construction Requirements:

W-beam post and railing shall be constructed in accordance with the requirements of the Project Plans unless noted otherwise.

Prior to fabrication, the Contractor shall submit four sets of shop drawings to the Engineer for approval in accordance with the requirements of Subsection 105.03 of the ADOT Standard Specifications. The shop drawings shall show complete details of the method of installation to be followed, including a temperature correction chart for adjusting the dimensions of the joint according to the ambient temperature and any additions or rearrangements of the reinforcing steel from that shown on the project plans.

The Contractor shall make the railing's line and grade true and shall not follow unevenness in bridge deck or approach slab. Unless the plans require otherwise, the Contractor shall construct the railing with the posts normal to the grade of the structure.

Unless the plans provide otherwise, the Contractor shall set anchor bolts during concrete placement and shall locate the anchor bolts to provide the correct railing alignment. The anchor bolts shall not project more than 3/8 inch beyond the nut after attaching the rail.

The Contractor shall shim to align each railing post and end base plate as shown on the project plans.

Rounded w-beam end sections shall be installed at the end of each railing as shown on project plans.

Method of Measurement:

W-beam and post railing will be measured by the linear foot from end-post to end-post.

Basis of Payment:

The accepted quantities of w-beam and post railing, measured as provided above, will be paid for at the contract unit price per linear foot, which price shall be full compensation for the work, complete in place including all steel, rail, hardware, weathered components and other materials.

W-beam end sections will not be measured or paid separately and will be considered as included in the cost of w-beam and post railing.

ITEM 9130005 RIPRAP (GABIONS)

Description:

The work under this items shall consist of furnishing and installing gabion protection as shown on the project plans and in accordance with the requirements of the ADOT Standard Specifications and these Special Provisions.

Materials:

(A) Metal Items:

At the Contractor's option, either woven wire mesh or welded wire mesh (welded mesh) may be used. For each individual gabion, the same mesh style shall be used for the base, front, ends, back, diaphragms, and lid panels. Each gabion shall be divided into cells of equal length, no greater than 3 feet, by diaphragm panels.

Mesh: Individual wires of either mesh style (woven or welded) shall conform to the definitions and requirements of ASTM A641 for "carbon steel", zinc-coated wire. All zinc coated gabion shall conform to ASTM A975 Style 1 (zinc coated gabions) for woven gabion and ASTM A974 Style 1 for welded gabion and shall meet the following requirements:

Characteristic	**Test Designation**	**Requirement**
Minimum tensile strength	ASTM A370	60,000 psi
Zinc Coating	ASTMA641	Class 3
Wire Size (Minimum) Wire Diameter (Minimum) Galvanizing	USA Steel Wire Gage ASTM A 641 ASTM A 641, Table 3 ASTM A 641, Table 1 And ASTM A90	11 0.120 inch 0.116 inch 0.85 oz/sf
Wire Size (Minimum) Wire Diameter (Minimum) Galvanizing	USA Steel Wire Gage ASTM A 641 ASTM A 641, Table 3 ASTM A 641, Table 1 And ASTM A 90	9 0.148 inch 0.144 inch 0.90 oz/sf

Mattress-style gabion baskets that are 12 inches high shall be manufactured from either 11 gage welded mesh or twisted mesh. Cubical-celled gabion baskets that are 36 inches high by 36 inches wide shall be fabricated from 11 gage twisted mesh or welded mesh gages between 11–gage and 9–gage, inclusive.

Twisted-mesh wires shall form a uniform hexagonal pattern and shall be formed with a non-raveling twist. The area of the hexagonal opening shall not exceed 3-¼ inch. Twisted-mesh gabion panels shall be manufactured from 11-gage wires with 9-gage selvage wires.

Welded-mesh wires shall form a grid pattern. Welds shall be made by resistance welding. Welds and panels shall also conform to ASTM A 185, "Steel Welded Wire Fabric -Plain for Concrete," except weld shears shall be 600 pounds force for 11-gage wires and 800 pounds force for 9-gage wires.

Joints: Wires used to form joints shall conform to the definitions and requirements of ASTM A 641 for "carbon steel", zinc-coated wire and shall meet the following requirements:

Characteristic	Test Designation	Requirement
Minimum tensile strength	ASTM A370	60,000 psi
Zinc Coating	ASTMA641	Class 3
Tie Wire Wire Size (Minimum) Wire Diameter (Minimum) Galvanizing	 USA Steel Wire Gage ASTMA641 ASTM A 641, Table 3 ASTM A 641, Table 1 And ASTM A90	 13.5 0.086 inch 0.083 inch 0.70 oz/sf
Spirals Wire Size (Maximum) Wire Diameter (Minimum) Galvanizing	 USA Steel Wire Gage ASTM A641 ASTM A 641, Table 3 ASTM A 641, Table 1 And ASTMA90	 9 0.148 inch 0.144 inch 0.90 oz/sf

Spiral binders shall have a 3-inch separation between continuous, successive loops. Overlapping fasteners (rings) may be used in lieu of, or to complement, lacing wire for basket assembly and installation. The spacing of the fasteners during all phases of assembly and installation shall be in accordance with spacing based pull apart resistance of 1,400 lb/ft for galvanized mesh when tested in accordance with ASTM A975 section 13.1.2, with a nominal spacing of 4 in., and not to exceed 6 in.

- Galvanized Fasteners: Diameter = 0.120 in. in accordance with ASTM A313, Type 302, Class I.
- Tensile strength: 230,000 to 273,000 psi in accordance with ASTM A764-95(2001).
- Proper installation of rings: A properly formed ring fastener shall have a nominal overlap of one (1) in. after closure.

Internal cross tie connecting wires or preformed stiffeners shall be at least 13.5-gage. Each wire shall also meet the minimum requirements of the wire in this specification. Internal connecting shall be provided on a 1-foot grid.

The Contractor may request acceptance of alternative fasteners. Alternative fasteners for woven and welded gabions must be tested in accordance with ASTM A975 Table 2 panel to panel connection. Contractor shall provide copy of the tests made by a recognized laboratory 15 days prior to construction of gabions. The Contractor's request shall describe how and where the proposed alternative fasteners will be used.

Gabions which have been constructed with unacceptable alternative fasteners shall be removed or reconstructed at no additional cost to the Department at the discretion of the Engineer.

Certificates of Compliance conforming to the requirements of Subsection 106.05 shall be submitted.

(B) Soil Anchor Stakes:

Soil anchor stakes shall meet the requirements of Subsection 913-2.02 (F) of the ADOT Standard Specifications.

(C) Gabion Baskets:

Acceptable gabion basket dimensions of width, height and length are as shown on the project plans. The height, width, or length of individual gabions shall not vary more than 5 percent from the dimensions in these specifications or as shown on the plans.

Woven mesh wire baskets shall consist of a uniform hexagonal wire mesh woven in a double twist pattern with openings of approximately 2 ½ inches by 3 ¼ inches, fabricated in such a manner as to be non-raveling, and designed to provide the required flexibility and strength.

Welded wire baskets shall consist of wire spaced at 3 inches center to center.

Empty gabion baskets shall be manufactured individually, in the factory with base, front, ends, back, and diaphragms all connected together on one side minimum, lids may be assembled on the site. Gabion baskets shall be assembled such that the strength and flexibility along the joints are in accordance with ASTM A975 (woven gabion) and A974 (welded gabion) panels to panels connection.

(D) Riprap:

Riprap shall meet the requirements of Subsection 913-2.01 (D) of the ADOT Standard Specifications.

(E) Bedding Material and Earthwork:

Bedding Material shall consist of granular material having a maximum dimension of two inches and shall be free of clay or organic material.

The earthwork/grading included with this item shall consist of providing a specific soil cover over the in-place gabion or gabion mattress bank protection as shown in the project details and plans, excavation and backfilling required to construct the toe-down, and all excavation and backfilling required to attain required compaction.

Excavation and backfilling required as shown on the project plans shall be in accordance with ADOT Standard Specifications Section 203-4 and 203-10.

Control of groundwater necessary to complete the excavation and placement of the gabions will be considered incidental to the gabion construction.

(F) Filter Fabric:

Geotextile filter fabric shall meet the requirements of Subsection 913-2.05 of the ADOT Standard Specifications.

Construction Requirements:

(A) General:

Areas on which bank protection is to be constructed shall be cleared, grubbed, and excavated or backfilled in accordance with the requirements of the appropriate sections of these Special

Provisions and ADOT Standard Specifications to produce a ground surface in reasonable conformance with the lines and grades shown on the project plans or established by the Engineer.

Gabion construction may require excavation below the water table. Dewatering or other methods to control the groundwater may be required. Placement of gabions through water will not be permitted unless otherwise approved by the Engineer.

(B) Gabions:

The gabion bed shall be excavated to the width, line and grade as shown on the plans. The gabions shall be founded on this bed and laid to the lines and dimensions required. Excavation for toe shall be made to the neat lines of the toe.

Gabions shall be preassembled in the factory with sides, ends, and diaphragms all connected together, on side minimum where they can be assembled at the construction site into rectangular units of the specified sizes. Lids may be assembled on site. Gabions are to be of single unit construction; the base, ends and sides either to be woven into a single unit or one edge of these members connected to the base section of the unit.

Where the length of the gabion exceeds its horizontal width, the gabion is to be equally divided by diaphragms, of the same mesh and gauge as the body of the gabions, into cells whose length does not exceed the horizontal width. The gabion shall be furnished with the necessary diaphragms secured in proper position on the base section in such a manner that no additional tying at this juncture will be necessary. All perimeter edges of gabions shall be securely selvedged or bound so that the joints formed by tying the selvedges have the minimum connection strength.

Gabions shall be placed to conform to the specifications and dimensions shown on the project plans. Rock for gabions shall be placed in close contact in the unit so that maximum fill is obtained. The units may be filled by machine with sufficient handwork to accomplish requirements of this specification. Units shall be overfilled to a level surface by 1.5 to 2 inches before closing the lid to compensate for settlement.

The exposed face or faces shall be hand-placed using selected rocks or prevent bulging of the gabion cell and to improve appearance.

Each cell of the 3 foot deep gabions shall be filled in three (3)-12 inch lifts. Two connecting tie wires shall be placed between each lift in each cell. All connecting tie wires shall be looped around two mesh openings and the ends of the wires shall be securely twisted to prevent loosening. Care shall be taken to protect the vertical panels and diaphragms from being bent during filling operations.

The last lift of rock in each cell shall be placed level with the top of the gabion in order to properly close the lid and provide an even surface for the next course.

All gabion units shall be tied together each to its neighbor along all contacting edges in order to form a continuous connecting structure.

Empty gabions stacked on filled gabions shall be laced to the filled gabion at the front, side and back. Interlocking rings or overlapping rings may be used for assembly of individual gabions.

There shall be a ring in each mesh opening along the joint in lieu of tie wire or spiral binders. The use of alternative joint fasteners shall be approved by the Engineer in writing.

(C) Filter Fabric:

Filter fabric shall be placed on all areas to receive gabions, as shown on the project plans, prior to placement of the gabion. The surface to receive the filter fabric shall be free of obstructions, depressions, and debris. The fabric shall be loosely laid and not placed in a stretched condition.

The strips of filter fabric shall be placed to provide a minimum 24-inch overlap along each joint. On horizontal joints, the uphill strip shall overlap the downhill strip. On vertical joints the upstream strip shall overlap the downstream strip. The fabric shall be protected at all times during construction from extensive exposure to sunlight.

Placement of the gabions shall be done in such a manner as not to damage the fabric. If in the opinion of the Engineer, the fabric is damaged or displaced during the placement of the gabion or gabion mattress to the extent that it cannot function as intended the Contractor shall remove the rock and replace the filter fabric.

The filter fabric shall be attached to the bottom and side of the gabions that make up the outside perimeter of a finished bank protection unit. Typically, this attachment will be made horizontally along the top-of-bank and end-of-apron, and vertically along the upstream and downstream limits of each continuous unit of bank protection.

(D) Testing:

When requested by the Engineer, the Contractor shall provide a copy of all tests made by an approved laboratory for the following properties:

For woven gabions all tests for zinc coating, mesh tensile strength, panels to panels connection and salt spray test when alternative fastener is used shall be made in accordance with ASTM A975 for Double-Twisted Hexagonal Mesh Gabions and Revert Mattresses.

For welded gabions all tests for zinc coating, welds shear strength and panels to panels connection shall be made in accordance with ASTM A974 for Welded Wire Fabric Gabions and Gabion Mattresses.

All tests shall not be older than 5 years.

(E) Plans and Working Drawings:

Prior to fabrication of the baskets, the Contractor shall prepare shop and working drawings in accordance with the requirements of Subsection 105.03 of the ADOT Standard Specifications. The shop drawings shall show complete fabrication and erection details for the frames including detailed dimensions and sizes of component parts.

Method of Measurement:

Riprap (Gabions) will be measured by the cubic yard by computing the volume of the rock filled wire baskets as shown on the respective details of the project plans.

Basis of Payment:

Riprap (Gabions) measured as provided above, will be paid for at the contract unit price per cubic yard for the work unique to each of the two details. This price shall be full compensation for the work, complete in place, including excavation and dewatering or groundwater control as defined in this section, removal of existing gabions as shown on the project plans, backfilling gabions, furnishing and installing the gabion baskets, mattresses, rock, riprap drains, filter fabric, granular beddings, wire ties, anchor stakes, and miscellaneous metal items and associated work and testing described herein and as shown on the project plans.

ITEM 9240010 FORCE ACCOUNT WORK (UNFORESEEN CONDITIONS)

Description:

The work under this item shall serve as a contingency fund for Change Orders, as directed by the Owner's Engineer, in regards to unforeseen conditions and changes to the Scope of Work required to complete the work originally intended.

Measurement and Payment:

Measurement and payment for unforeseen conditions will be made on a Force Account basis in accordance with Section 109-04 of these Special Provisions.

SECTION 925 CONSTRUCTION SURVEYING AND LAYOUT

925-1 Description:

The work under this section shall consist of furnishing all materials, personnel, and equipment necessary to perform all surveying, staking, establishment of all pit boundaries, laying out of haul roads, and verification of the accuracy of all existing control points which have been provided by the Department. The control point verification process shall include locating and making ties to all section line, right-of-way, and roadway monuments in the vicinity of the proposed work. Included in this work shall be all calculations required for the satisfactory completion of projects, including grade and drain, overlay, safety, landscape, rest areas, structures, surfacing projects, or combinations thereof, in conformance with the plans and specifications. The work shall include establishing and marking 'as-built' elevations on bridges, and culverts. The work shall be done under the direction of a registered professional engineer or a registered land surveyor employed by the Contractor. The crew chief shall be (National Society of Professional Surveyors) NSPS Certified Level III, (National Institute for Certification in Engineering Technologies) NICET Certified Level III, or a registered Land Surveyor-in-Training. A minimum of 50 percent of the survey crew shall be either NSPS Certified Level II or NICET Certified Level II. All work affecting real property boundaries as described in Arizona State Board of Technical Registration Standards shall be performed under the direction of a registered land surveyor licensed in the State of Arizona.

When construction of new right-of-way monuments is included with the project, the Department will establish all initial right-of-way monuments prior to construction and forward a right-of-way staking plan to the Contractor. Prior to completion of the construction project, as directed by the Engineer, the Department will supply, install, and stamp the final right-of-way markers.

All other existing cadastral corners, such as section corners, quarter corners, intersecting street centerline monuments, and property corners that are destroyed by the Contractor shall be re-established by a registered land surveyor employed by the Contractor.

Measurement of all pay quantity items will be the responsibility of the Department.

When utility adjustments are a part of the contract, the Contractor shall perform all layout work and set all control points, stakes and references necessary for carrying out all such adjustments.

The Contractor shall not employ or engage the services of any person or persons in the employ of the Arizona Department of Transportation for the performance of any of the work as described herein.

925-2 Materials, Personnel and Equipment:

Materials and equipment shall include, but shall not necessarily be limited to, vehicles for transporting personnel and equipment, properly adjusted and accurate survey equipment, straightedges, stakes, flagging, and all other devices necessary for checking, marking, establishing and maintaining lines, grades and layout to perform the work called for in the contract. The Contractor shall furnish competent personnel to perform the survey work and layout.

Traffic control devices and procedures for construction surveying shall be in accordance with the requirements of the MUTCD and associated ADOT Supplement.

Field books or other electronic data collection records used by the Contractor for recording survey data and field notes shall be available for inspection by the Department at any time and shall become the property of the Department upon completion of the work.

925-3 Construction Requirements:

925-3.01 General:

Prior to beginning any survey operations, the Contractor shall furnish to the Engineer, for approval, a written outline detailing the method of staking, marking of stakes, grade control for various courses of materials, referencing, structure control, pavement markings, and any other procedures and controls necessary for survey completion. A part of this outline shall also be a schedule which will show the sequencing of the survey and layout work, throughout the course of the contract, listing a percentage of completion for each month. Section 1150, Chapter 11 of the ADOT Construction Manual shall be used by the Contractor as a guide in the preparation of this outline. The ADOT Construction Manual is available on the Department's website, through the Construction and Materials Group.

When design survey is established and shown on project plans, the Department will provide a minimum of 3 control points within 1 mile of the project site, and centerline geometry information for the Contractor's use. Department furnished control points set in the field will be identified to the Contractor. On projects without design survey, the Department will identify record drawings from which the Contractor can establish construction survey.

The Contractor shall verify the accuracy of the control points established by the Department prior to use. The Contractor shall, as part of the control point verification process, locate and make ties to any section line, right-of-way, and roadway monuments which will be affected by the proposed work. After verification of these points, the Contractor shall notify the Department in writing of the results.

The Contractor shall establish an accurate construction centerline and bench marks for the proper layout of the work as described herein.

Traverse and control points established by the Contractor shall be provided to the Department as follows:

For horizontal control, the Contractor shall run a traverse from which construction centerline can be established. The control points, delineated by iron pins, marks in concrete, or similar devices, shall be located to minimize the likelihood of their destruction during construction activities. Coordinates of these points or ties to construction centerline shall be provided to the Department.

For vertical control, the Contractor shall establish bench marks for the entire length of the project at horizontal intervals not to exceed 2,500 feet.

Traverse or control points set by the Contractor shall be identified in the field to the Department.

When GPS is utilized, the Contractor will furnish the GPS localization results to the Department at least seven days before beginning construction layout survey work. The Engineer may order the GPS localization calibration and associated 3D model to be broken into two or more zones to maintain the localized relationship between control points and original ground.

The established initial right-of-way monuments shall be protected in place and re-established by the Contractor, if disturbed, at no additional cost to the Department.

For locating and establishing ties to section line, right-of-way, and roadway monuments, the Contractor shall follow the standards listed in Subsection 925-3.02(B).

Throughout the work, when design survey is established and shown on project plans, the Contractor shall set all stakes including centerline stakes; offset stakes; reference point stakes; slope stakes; pavement lines, curb lines and grade stakes; stakes for sewers, roadway drainage, pipe, under drains, clearing, paved gutter, guardrail, fence, survey monuments and culverts; blue tops for subgrade, subbase and base courses; control points for bridges, bridge piers, abutments, footings, pile cutoff, pile layout, pier caps, bridge seats, bridge beams, girder profiles and screed elevations; supplemental bench marks; permanent as-built elevation marks; and all other horizontal or vertical controls necessary for complete and accurate layout and construction of the work. Regardless of the staking method, construction stakes shall be marked in such a manner that all construction personnel can easily identify the stake location, elevation, and other appropriate information. The coordinates of any new control points established by the Contractor during the course of the work shall be given to the Engineer within five working days of control point establishment.

On surface treatment projects, and other projects without horizontal control, stakes indicating locations shall be placed every 500 feet, unless otherwise defined in the Special Provisions. Locations may be painted on the pavement in place of staking when approved by the Engineer.

If errors are discovered during the verification process, and control points do not agree with the geometrics shown in the plans, the Contractor shall promptly notify the Engineer in writing, and explain the problem in detail. The Engineer will advise the Contractor within five working days of any corrective actions which may be deemed necessary.

Directed changes to the work shall be reimbursed under Subsection 925-5 and additional contract time may be considered for any delays.

The Contractor shall be responsible for the proper layout and accuracy of all property markers which are required by the project plans.

Structure sites shall be accurately profiled and cross-sectioned, and structure control points shall be set and checked to assure the proper construction or installation of each structure. Profiles shall be approved by the Engineer prior to constructing or installing each structure. All profile survey data shall be entered in field books, or electronic reports satisfactory to the Engineer and preserved as a permanent project record.

The Contractor shall exercise care in the preservation of stakes, references and bench marks and shall reset them when any are damaged, lost, displaced or removed.

On all projects, the centerline layout for the final surface course shall be established by instrument survey by the Contractor and shall serve as marks for permanent traffic centerline striping. On projects requiring Contractor striping, the Contractor shall set points at intervals of not greater than 50 feet for each traffic lane at the beginning and ending of each yellow stripe, and at the beginning and ending of gores and tapers.

The Contractor shall also provide control points on the roadway, satisfactory to the Engineer, corresponding to the locations of all transition points for all lines of striping, including the beginnings, ends, breaks, and changes in the striping, including all tapers in the striping, and pavement edges when necessary to establish striping.

A minimum of two weeks prior to any paving activities, the Contractor, the Contractor’s surveyors, the pavement marking subContractor, and the Engineer shall meet to discuss the survey control for the applications of all temporary detour and permanent striping. At this meeting the Contractor shall provide a written plan, satisfactory to the Engineer, to provide survey control and layout of the temporary detour and permanent striping in a timely manner.

On projects that include no-passing zones, the Contractor shall also coordinate the survey layout of such zones with the ADOT No Passing Zone Crew. The Contractor shall contact the ADOT No Passing Zone Crew at the phone number provided on the project plans at least five working days before placement of the related pavement marking.

On projects where traffic is being carried through the work zone, pavements shall be marked for traffic centerline delineation before the end of each work shift. Temporary pavement markings shall conform with the requirements set forth under Subsection 701-3.05 of these specifications and any subsequent modifications thereto.

Any discrepancies in grade, alignment, earthwork quantities, locations or dimensions detected by the Contractor shall immediately be brought to the attention of the Engineer. No changes in the project plans will be allowed without the approval of the Engineer. Requests for verification of earthwork quantities shall be in accordance with Subsection 203-2.01.

The Department reserves the right to make inspections and random checks of any portion of the staking and layout work. If, in the Engineer's opinion, the work is not being performed in a manner that will assure proper controls and accuracy, the Engineer will order any or all of the staking and layout work redone at no additional cost to the Department.

If any portion of the Contractor's staking and layout work is ordered redone, resulting in additional rechecking by the Department, the Department shall be reimbursed for all costs for such additional checking. The amount of such costs will be deducted from the Contractor's monthly estimate.

Inspection of the Contractor's layout by the Engineer and the acceptance of all or any part of it shall not relieve the Contractor of its responsibility to secure the proper dimensions, grades and elevations.

925-3.02 Resetting Monuments:

(A) General:

The Contractor shall be responsible to maintain all existing monumentation, including section line, right-of-way, and roadway monumentation. Monumentation disturbed during construction shall be re-established by the Contractor, and recorded at the appropriate county recorder's office, at no additional cost to the Department.

(B) Monumentation Standards:

Section corner, quarter corner, and property corner monuments shall be re-established following the procedures in the Manual of Surveying Instructions 2009, published by the U.S. Department of the Interior, Bureau of Land Management, and all applicable statutes and requirements specified in the current Arizona State Board of Technical Registration's "Arizona Boundary Survey Minimum Standards." The Contractor shall also follow the ADOT Right-of-Way Standards when re-establishing right-of-way monuments.

(C) Procedures:

Section line, right-of-way, and roadway monumentation re-established by the Contractor shall bear the registration number of the Land Surveyor in responsible charge of the location.

Monuments used to define section lines shall be stamped in accordance with Manual of Surveying Instructions 2009, published by the Department of Interior, Bureau of Land Management. Roadway monumentation shall be stamped in accordance with the requirements of the appropriate municipal jurisdiction. Right-of-way monuments shall be stamped in accordance with the ADOT Right-of-Way Standards.

Monuments that are re-established shall be recorded at the appropriate county recorder's office, and a copy of the Corner Recordation documentation shall be submitted to the Engineer within five working days of recordation.

925-3.03 Office Survey Work:

The Contractor shall be compensated for office work associated with project survey under the following circumstances:

(A) When the project plans fail to provide sufficient information to lay out the project or any part thereof.

(B) When the Contractor performs office survey work based on erroneous plans information which results in the duplication of work.

(C) If the Department should change any plans information for which the Contractor has already performed office work which results in the duplication of that work.

The Contractor shall not be due compensation for any office survey work that includes the following:

(A) When information provided in the plans is sufficiently complete and accurate to allow additional information necessary for the complete layout of the project to be routinely calculated.

(B) When the Contractor fails to inform the Engineer of discovered plan errors prior to the performance of extra office survey work.

The Contractor shall inform the Engineer in a timely manner of any omissions, ambiguities, or errors which the Contractor feels may result in extra office survey work, so as not to delay the project or create unnecessary calculations.

All office survey work shall be documented by the Contractor and verified by the Engineer for compensation. Documentation shall consist of at least a detailed office diary specifically addressing the work involved in the alleged problem area. The Contractor may be required to provide the calculations, charts, graphs, drawings, or other physical evidence which verifies the extra work.

925-3.04 Survey Manager:

The Contractor shall be compensated for a survey manager when deemed necessary for extra work ordered by the Engineer. The use of a survey manager, along with all survey manager duties required as a result of the additional work, must be authorized in advance by the Engineer. The survey manager shall be a Registered Land Surveyor in the State of Arizona.

925-4 Method of Measurement:

Construction surveying and layout will be measured on a lump sum basis.

One-, two-, and three- person survey parties, survey managers, and office survey technicians will be measured by the hour to the nearest half hour.

925-5 Basis of Payment:

Payment for construction surveying and layout will be made at the contract lump sum price and will be made as follows:

The approved schedule showing the sequencing and percentage of the survey and layout work, as submitted under Subsection 925-3.01, shall be the basis on which monthly progress payments shall be made. This schedule shall be subject to periodic review, at the request of the Contractor or the Department, if the survey and layout work lags or accelerates. If necessary the schedule will be revised to reflect changes in survey and layout progress. When approved by the Engineer, the revised schedule will become the basis of payment.

If additional staking and layout are required as a result of additional work ordered by the Engineer, such work will be paid under items listed in the table below.

ITEM	PREDETERMINED RATE
9250101-ONE-PERSON SURVEY PARTY	$110 per hour
9250102-TWO-PERSON SURVEY PARTY	$150 per hour
9250103-THREE-PERSON SURVEY PARTY	$190 per hour
9250106-SURVEY MANAGER	$175 per hour
9250105–OFFICE SURVEY TECHNICIAN	$85 per hour

Payment will be made at the respective predetermined unit prices listed in the table above. No additional payment will be made for overtime hours. Should such additional work require the Contractor to pay travel and subsistence costs for the survey party or survey parties utilized, payment for travel and subsistence will be made under the provisions of Subsection 109.04, except that no mark-up will be allowed for profit and overhead. The Engineer will determine whether the additional work shall be performed by the Contractor or by Department forces.

The amount per hour for a one-person, two-person, or three-person survey party includes the cost of all work necessary to complete the extra work.

Traffic control and flagging, including any necessary because of the additional staking and layout required as a result of extra work ordered by the Engineer, or additional work resulting from contract expansion and ordered by the Engineer, shall conform to the requirements of Section-701, Maintenance and Protection of Traffic, and will be measured and paid under the respective contract items.

No payment will be made for the resetting of stakes, references, bench marks, and other survey control unless directed by the Engineer.

The amount per hour for a survey manager and an office survey technician shall include all necessary office supplies and equipment.

Unless otherwise directed by the Engineer, requests for payment for additional survey work performed shall be submitted prior to the end of the monthly estimate billing period during which the work is performed.

SECTION 1003 REINFORCING STEEL

Reinforcing Steel shall be in accordance with Section 1003 of the ADOT Standard Specifications except as modified herein.

1003-1 **General Requirements:** the first paragraph of the ADOT Standard Specifications is revised to read:

Reinforcing steel shall be furnished in the sizes, shapes, and lengths shown on the plans and in conformance with the requirements of the specifications.

Certificates of Compliance conforming to the requirements of Subsection 106.05 shall be submitted for epoxy coated reinforcing bars, as well as uncoated reinforcing bars, wire, and welded wire fabric. In addition, for epoxy coated reinforcing bars, Certificates of Compliance shall

be required from the coating manufacturer and Certificates of Analysis shall be required from the coating applicator.

1003-2 Reinforcing Bars: the first paragraph of the ADOT Standard Specifications is revised to read:

Except when used for wire ties or spirals, steel bars used as reinforcement in concrete shall be deformed and shall conform to the requirements of ASTM A 615. Unless otherwise specified, steel bars meeting the requirements of ASTM A 706 may be substituted for ASTM A 615 steel bars. When ASTM A 706 bars are used, tack welding of the reinforcement will not be permitted unless approved in writing by the Engineer.

1003-3 Wire: of the ADOT Standard Specifications is revised to read:

Steel wire used as spirals or ties for reinforcement in concrete shall conform to the requirements of ASTM A 82.

1003-5.02 Epoxy for Coating: the first paragraph of the ADOT Standard Specifications is revised to read:

A list of powdered epoxy resins which have passed prequalification tests, as described in ASTM A 775, “Epoxy-Coated Steel Reinforcing Bars”, and which may be used if the material is applied and cured in the same manner as that used to coat the test bars in the original powder prequalification test may be found on the Department’s Approved Products List. Copies of the most current version are available on the internet from the ADOT Research Center through its Product Evaluation Program.

1003-5.02 Epoxy for Coating: the fifth paragraph of the ADOT Standard Specifications is revised to read:

The Contractor shall furnish a Certificate of Compliance from the coating manufacturer, conforming to the requirements of Subsection 106.05. The Certificate of Compliance shall properly identify the batch and/or lot number, material, quantity of batch, date of manufacture, name and address of manufacturer, and a statement that the material is the same composition as the initial sample prequalified for use. The certificate shall also state that production bars and prequalification bars have been identically prepared and applied with epoxy powders.

1003-5.03 Application of Coating: the second paragraph of the ADOT Standard Specifications is revised to read:

The surface to be coated shall be blast cleaned in accordance with the requirements of the Society for Protective Coatings, Surface Preparation Standard SSPC-SP10, Near White Blast Cleaning.

1003-5.03 Application of Coating: the fifth paragraph of the ADOT Standard Specifications is revised to read:

The epoxy coating shall be applied as a smooth uniform coat. After curing, the coating thickness shall be ten ± two mils. Coating thickness shall be controlled by taking measurements on a representative number of bars from each production lot. Coating thickness measurements shall

be conducted by the method outlined in the Society for Protective Coatings Paint Application Standard SSPC-PA2.

1003-5.03 Application of Coating: the ninth and tenth paragraphs of the ADOT Standard Specifications are revised to read:

The Contractor shall furnish a Certificate of Analysis from the coating applicator, conforming to the requirements of Subsection 106.05, with each shipment of coated steel. In addition to the requirements of Subsection 106.05, the Certificate of Analysis shall state that the coated items and coating material have been tested in accordance with the requirements of this subsection and that the entire lot is in a fully-cured condition.

The coating applicator shall be responsible for performing quality control and tests. This will include inspection and testing to determine compliance with the requirements of this subsection for the coating thickness, continuity of coating, coating cure, and flexibility of coating.

SECTION 1005 BITUMINOUS MATERIALS

Bituminous materials shall be in accordance with Section 1005 of the ADOT Standard Specifications except as modified herein.

1005-2 Sampling of Bituminous Material: the first sentence of the first paragraph of the Standard Specifications is revised to read:

Sampling of bituminous material shall conform to the requirements of Arizona Test Method 103.

1005-3.01 Asphalt Cement: the second paragraph of the Standard Specifications is revised to read:

If PG 76-22 TR+ asphalt binder is used, it shall conform to the requirements of Table 1005-1a.

If PG 70-22 TR+ asphalt binder is used, it shall conform to the requirements of Table 1005-1b.

If PG 64-28 TR+ asphalt binder is used, it shall conform to the requirements of Table 1005-1c.

1005-3.01 Asphalt Cement: the third paragraph of the Standard Specifications is hereby deleted:

1005-3.04 Emulsified Asphalt (Special Type): of the Standard Specifications is revised to read:

Emulsified asphalt (special type) shall consist of Type SS-1 or CSS-1 diluted with water to provide an asphalt content not less than 26 percent. The water used must be potable. The material shall not be diluted in the field.

TABLE 1005-1: "Creep Stiffness of PAV Binder" in Table 1005-1 of the Standard Specifications is revised to read:

TABLE 1005-1 ASPHALT BINDER ADJUSTMENT TABLE			
Test Property	AASHTO Test Method	Test Result	Percent of Contract Unit Price Allowed
Creep Stiffness of PAV Binder: S, MPa	T 313	≤ 300 301-330 331-450 451-600 > 600	100 95 85 75 65 (1)

TABLE 1005-1b: PG 70-22 TR+ ASPHALT BINDER is hereby added to the Standard Specifications:

TABLE 1005-1b PG 70-22 TR+ ASPHALT BINDER				
Test Property	Test Method	Requirement	Test Result	Percent of Contract Unit Price Allowed
Solubility in Trichloroethylene, %, minimum	ASTM D 2042	97.5	------	------
Softening Point, °C, minimum	AASHTO T 53	54	≥ 54 51 - 53 < 51	100 85 70 (1)
Elastic Recovery, @ 10 °C, %, Minimum	AASHTO T 301	55	≥ 55 50 - 54 < 50	100 85 70 (1)
Phase Angle (δ), @ 70 °C @ 10 rad/sec, degrees, maximum	AASHTO T 315	75	≤ 75 76 - 83 > 83	100 85 65 (1)
(1) Reject Status: The pay adjustment applies if allowed to remain in place.				
Notes:				

PG 70-22 TR+ asphalt binder shall contain a minimum of 8 percent crumb rubber and a minimum of two percent SBS (styrene-butadiene-styrene) polymer.

PG 70-22 TR+ asphalt binder shall conform to the requirements of AASHTO M 320 and, in addition, shall meet the requirements specified above.

Table 1005-1 will also apply for PG 70-22 TR+ asphalt binder.

Should the bituminous material be deficient on more than one of the properties listed in Tables 1005-1 and 1005-1b, the pay adjustment will be the greatest reduction to the contract unit price specified considering individual test results.

The pressure aging temperature for PG 70-22 TR+ asphalt binder shall be 110 °C.

The crumb rubber shall be derived from processing whole scrap tires or shredded tire materials. The tires from which the crumb rubber is produced shall be taken from automobiles, trucks, or other equipment owned and operated in the United States. The processing shall not produce, as a waste product, casings or other round tire material that can hold water when stored or disposed of above ground.

TABLE 1005-1c: PG 64-28 TR+ ASPHALT BINDER is hereby added to the Standard Specifications:

TABLE 1005-1c
PG 64-28 TR+ ASPHALT BINDER

Test Property	Test Method	Requirement	Test Result	Percent of Contract Unit Price Allowed
Solubility in Trichloroethylene, %, minimum	ASTM D 2042	97.5	-----	-----
Softening Point, °C, minimum	AASHTO T 53	50	≥ 50 47 - 49 < 47	100 85 70 (1)
Elastic Recovery, @ 10 °C, %, Minimum	AASHTO T 301	55	≥ 55 50 - 54 < 50	100 85 70 (1)
Phase Angle (δ), @ 64 °C @ 10 rad/sec, degrees, maximum	AASHTO T 315	75	≤ 75 76 - 83 > 83	100 85 65 (1)
(1) Reject Status: The pay adjustment applies if allowed to remain in place.				
Notes:				

PG 64-28 TR+ asphalt binder shall contain a minimum of 8% crumb rubber and a minimum of two percent SBS (styrene-butadiene-styrene) polymer.

PG 64-28 TR+ asphalt binder shall conform to the requirements of AASHTO M 320 and, in addition, shall meet the requirements specified above.

Table 1005-1 will also apply for PG 64-28 TR+ asphalt binder.

Should the bituminous material be deficient on more than one of the properties listed in Tables 1005-1 and 1005-1c, the pay adjustment will be the greatest reduction to the contract unit price specified considering individual test results.

The pressure aging temperature for PG 64-28 TR+ asphalt binder shall be 100 °C.

The crumb rubber shall be derived from processing whole scrap tires or shredded tire materials. The tires from which the crumb rubber is produced shall be taken from automobiles, trucks, or other equipment owned and operated in the United States. The processing shall not produce, as a waste product, casings or other round tire material that can hold water when stored or disposed of above ground.

TABLE 1005-3a: "Elastic Recovery by means of Ductilometer" is revised and "Note 2" is added in Table 1005-3a of the Standard Specifications:

TABLE 1005-3a
POLYMERIZED CATIONIC RAPID SET (CRS-2P)
EMULSIFIED ASPHALT (1)

Tests on Emulsion:	Test Method	Requirement
Elastic Recovery by means of Ductilometer, 25 ºC (77 ºF), % minimum	AASHTO T 301 (2)	55

(2) Testing shall be performed on residue by distillation, not on residue by oven evaporation.

TABLE 1005-3b: "Elastic Recovery by means of Ductilometer" is revised and "Note 3" is added in Table 1005-3b of the Standard Specifications:

TABLE 1005-3b
POLYMERIZED HIGH FLOAT EMULSIFIED ASPHALT (1)

Tests on Emulsion:	Test Method	Requirement	
		HFE-150P	HFE-300P
Elastic Recovery by means of Ductilometer, 4 ºC (39.2 ºF), % minimum	AASHTO T 301 (3)	25	25

(3) Testing shall be performed on residue by distillation, not on residue by oven evaporation.

TABLE 1005-6: PG 70-22 TR+ and PG 64-28 TR+ are added to "Paving Asphalt" in Table 1005-6 of the Standard Specifications:

TABLE 1005-6
OTHER REQUIREMENTS

Grade of Asphalt Specification Designation	Range of Temperatures for Application by Spraying, °F (Not applicable for Plant Mixing)	Range of Aggregate Temperatures for Plant Mixing, °F	Basis of Conversion, Average Gallons Per Ton at 60 °F
Paving Asphalt	275 - 400	------	
PG 76-XX			232
PG 70-XX			233
PG 64-XX			235
PG 58-XX			236
PG 52-XX			238
PG 76-22 TR+			229
PG 70-22 TR+			230
PG 64-28 TR+			231

SECTION 1006 PORTLAND CEMENT CONCRETE

Portland Cement Concrete shall be in accordance with Section 1006 of the ADOT Standard Specifications except as modified herein.

1006-1 General Requirements: of the ADOT Standard Specifications is revised to read:

Portland cement concrete shall consist of a mixture of hydraulic cement, fine aggregate, coarse aggregate, and water. It may also contain air-entraining admixtures, chemical admixtures, and supplementary cementitious materials.

The Contractor shall determine the mix proportions and shall furnish concrete which conforms to the requirements of the specifications. All concrete shall be sufficiently workable, at the slump proposed by the Contractor within the specified range, to allow proper placement of the concrete without harmful segregation, bleeding, or incomplete consolidation. It shall be the responsibility of the Contractor to proportion, mix, place, finish, and cure the concrete properly in accordance with the requirements of the specifications.

1006-2.01 Hydraulic Cement: the second through the fifth paragraphs of the ADOT Standard Specifications are revised to read:

Portland cement shall conform to the requirements of ASTM C 150 for Type II, III, or V, and shall be low alkali cement containing not more than 0.60 percent total alkali (Na_2O equivalent).

Portland-pozzolan cement shall conform to the requirements of ASTM C 595 for blended hydraulic cement with moderate sulfate resistance, Type IP (MS).

Cementitious material is defined as an inorganic material or a mixture of inorganic materials that sets and develops strength by chemical reaction with water by formation of hydrates and is capable of doing so under water. In this specification, cementitious materials are defined as: hydraulic cement (Portland cement or Portland-pozzolan cement) and supplementary cementitious material (Fly Ash, Natural Pozzolan, or Silica Fume).

Hydraulic cement shall be approved prior to its use in accordance with ADOT Materials Policy and Procedure Directive No. 13, "Certification and Acceptance of Hydraulic Cement, Fly Ash, Natural Pozzolan, Silica Fume, and Lime".

1006-2.02 Water: the first sentence of the first paragraph of the ADOT Standard Specifications is revised to read:

The water used shall be free of injurious amounts of oil, acid, alkali, clay, vegetable matter, silt, or other harmful matter.

1006-2.03(A) General Requirements: the first paragraph of the ADOT Standard Specifications is revised to read:

When concrete is to be placed at elevations above 4,500 feet, the fine aggregate and the coarse aggregate shall be subjected to five cycles of the sodium sulfate soundness test, and the weighted percentage loss determined separately for each, in accordance with the requirements of AASHTO T 104. The weighted percentage loss determined for each shall not exceed 10 percent. Tests for soundness may be waived when aggregates from the same source have been approved and the approved test results apply to the current production from that source.

1006-2.03(A) General Requirements: the second paragraph of the ADOT Standard Specifications is hereby deleted:

1006-2.03(A) General Requirements: the fifth paragraph of the ADOT Standard Specifications is revised to read:

When aggregates are stored on the ground, the sites for the stockpiles shall be level and clear of all vegetation. The bottom one-foot layer of aggregate shall not be disturbed or used.

1006-2.03(A) General Requirements: "Lightweight particles" in the table of the ninth paragraph of the ADOT Standard Specifications is revised to read:

Lightweight particles (Specific gravity less than 2.0)	AASHTO T 113 (See Note)

1006-2.03(B) Fine Aggregate: "Lightweight particles" in the table of the second paragraph of the ADOT Standard Specifications is revised to read:

Lightweight particles (Specific gravity less than 2.0)	AASHTO T 113 (Except that the percent of lightweight particles shall be reported to the nearest 0.01%.)	1.25% (0.25% Max. Coal and Lignite*)

1006-2.03(B) Fine Aggregate: the last paragraph of the ADOT Standard Specifications is revised to read:

Fine aggregate shall be made into mortar and subjected to testing under AASHTO T 71, except that the mortar shall develop a compressive strength at seven and 28 days of not less than 90 percent of that developed by a mortar prepared in the same manner with the same Type II cement and graded sand conforming to the requirements of ASTM C 778.

1006-2.03(C) Coarse Aggregate: "Lightweight particles" in the table of the second paragraph of the ADOT Standard Specifications is revised to read:

Lightweight particles (Specific gravity less than 2.0)	AASHTO T 113 (Except that the percent of lightweight particles shall be reported to the nearest 0.01%.)	1.25% (0.25% Max. Coal and Lignite*)

1006-2.04(A) General Requirements: the first paragraph of the ADOT Standard Specifications is hereby deleted.

1006-2.04(B) Air-Entraining Admixtures: the first paragraph of the ADOT Standard Specifications is revised to read:

Air-entraining admixtures shall conform to the requirements of ASTM C 260.

Air-entraining admixtures shall be approved prior to their use in accordance with ADOT Materials Policy and Procedure Directive No. 2, "Certification and Acceptance of Chemical and Air-Entraining Admixtures for Portland Cement Concrete".

1006-2.04(C) Chemical Admixtures: the first paragraph of the ADOT Standard Specifications is revised to read:

Chemical admixtures shall conform to the requirements of ASTM C 494.

Chemical admixtures shall be approved prior to their use in accordance with ADOT Materials Policy and Procedure Directive No. 2, "Certification and Acceptance of Chemical and Air-Entraining Admixtures for Portland Cement Concrete".

1006-2.04(D) Supplementary Cementitious Material (Fly Ash, Natural Pozzolan, and Silica Fume): the first paragraph of the ADOT Standard Specifications is revised to read:

Supplementary cementitious materials may be used in addition to hydraulic cement. Supplementary cementitious materials shall be approved prior to their use in accordance with ADOT Materials Policy and Procedure Directive No. 13, "Certification and Acceptance of Hydraulic Cement, Fly Ash, Natural Pozzolan, Silica Fume, and Lime".

1006-2.04(D) Supplementary Cementitious Material (Fly Ash, Natural Pozzolan, and Silica Fume): the last two paragraphs of the ADOT Standard Specifications are revised to read:

When a supplementary cementitious material with a calcium oxide content greater than 15 percent is proposed, the hydraulic cement/supplementary cementitious material blend shall be tested for sulfate expansion in accordance with ASTM C 1012. The maximum expansion shall be 0.10 percent at six months.

When either moderate or high sulfate resistant concrete is specified in the Special Provisions, the proposed hydraulic cement/supplementary cementitious material blend shall be tested for sulfate expansion in accordance with ASTM C 1012. When moderate sulfate resistance is specified, the maximum expansion shall be 0.10 percent at six months. When high sulfate resistance is specified, the maximum expansion shall be 0.05 percent at six months or 0.10 percent at one year.

1006-2.05 Concrete Curing Materials: the second paragraph of the ADOT Standard Specifications is revised to read:

Acceptance of concrete curing materials shall be as specified in ADOT Materials Policy and Procedure Directive No. 3, "Curing Compounds".

1006-3.01 Design Criteria: Table 1006-A of the ADOT Standard Specifications is revised to read:

TABLE 1006-A

Class of Concrete	**Minimum 28-Day Compressive Strength Required: psi** (See Note 1)	**Cementitious Material Content: Lbs per Cu Yd Minimum - Maximum** (See Notes 2, 3, and 4)	**Maximum Water/Cementitious Material Ratio (w/cm): Lb./Lb.**	**Slump Range: Inches**
B	2,500	470 - 658	None	(See Note 6)
S	2,500	520 - 752	0.55	
	3,000			

	(See Note 5)			
	3,500			
	4,000			
	4,500	564 - 752	0.50	
	Greater than 4,500	564 - 800	0.45	
P	4,000	564 - 658	None	0 - 4.5
H	High performance concrete as specified in project special provisions.			

Note 1: Testing for compressive strength of cylinders for all classes of concrete shall be in accordance with the requirements of Arizona Test Method 314.

Note 2: A supplementary cementitious material (fly ash, natural pozzolan, or silica fume) conforming to the requirements of Subsection 1006-2.04(D) may be used, as specified in paragraphs (a) through (f) below.

(a) When Portland cement is used, a maximum of 25 percent, by weight of the cementitious material, may be an approved fly ash or natural pozzolan, except as specified in paragraphs (d), (e), and (f) below.

(b) When Portland-pozzolan cement [Type lP (MS)] is used, fly ash or natural pozzolan is not allowed, except as specified in paragraphs (d), (e), and (f) below.

(c) When silica fume is used, a maximum of 10 percent, by weight of either Portland cement or Portland-pozzolan cement, may be used.

(d) When a compressive strength greater than 4,500 psi is required, supplementary cementitious material may be added in excess of the maximum cementitious material content. Fly ash or natural pozzolan may exceed 25 percent, by weight of the cementitious material, if approved by the Engineer.

(e) When increased sulfate resistance is specified, the required amount of fly ash or natural pozzolan shall be incorporated into the concrete and may exceed 25 percent, by weight of the cementitious material.

(f) For Class S concrete used in bridge decks, a minimum of 20 percent, by weight of the cementitious material, must be an approved Class F fly ash or natural pozzolan, unless otherwise approved by the Engineer.

Note 3: For any concrete mix, other than for precast and/or prestressed bridge members, with a Portland cement content greater than 545 pounds per cubic yard, one of the options specified in paragraphs (a) through (e) below for the mitigation of a potential alkali silica reaction (ASR) shall be used:

(a) A minimum of 20 percent Class F fly ash or natural pozzolan, by weight of the cementitious material, shall be used. The Class F fly ash or natural pozzolan shall have a calcium oxide content of 15 percent or less.

(b) Instead of using Portland cement, Type IP (MS) Portland-pozzolan cement with a Class F fly ash or natural pozzolan content of at least 20 percent, by weight of the cementitious material, shall be used. The Class F fly ash or natural pozzolan shall have a calcium oxide content of 15 percent or less.

(c) Limit the total alkali (Na_2O equivalent) to a maximum of 3.00 pounds per cubic yard of concrete, when calculated as follows:

$$\begin{bmatrix}\text{Pounds of total}\\ \text{alkali per cubic}\\ \text{yard of concrete}\end{bmatrix} = \frac{\begin{pmatrix}\text{Pounds of Portland}\\ \text{cement per cubic}\\ \text{yard of concrete}\end{pmatrix} \times \begin{pmatrix}\text{Na}_2\text{O equivalent (\%)}\\ \text{in Portand cement}\end{pmatrix}}{100}$$

(d) Introduce a lithium nitrate admixture, which has been approved by the Engineer, at a minimum dosage of 0.55 gallons of 30 percent lithium nitrate solution per pound of total alkali (Na_2O equivalent) per cubic yard of concrete. The required amount of lithium nitrate is calculated as follows:

$$\begin{bmatrix}\text{Required gallons}\\ \text{of 30 percent}\\ \text{lithium nitrate}\\ \text{solution}\end{bmatrix} = \frac{\begin{pmatrix}\text{Pounds of}\\ \text{Portland cement}\\ \text{per cubic yard}\\ \text{of concrete}\end{pmatrix} \times \begin{pmatrix}\text{Na}_2\text{O equivalent (\%)}\\ \text{in Portand cement}\end{pmatrix}}{100} \times (0.55)$$

(e) The coarse aggregate and the fine aggregate shall be tested separately in accordance with ASTM C 1260 to determine the potential for alkali silica reaction (ASR). When aggregates show the potential for ASR, as indicated by expansions of 0.10% or greater at 16 days after casting, sufficient mitigation for the expansion shall be determined in accordance with ASTM C 1567. The use of fly ash or natural pozzolan may exceed 25 percent, by weight of the cementitious material.

Note 4: Unless otherwise specified, the cementitious material content shall be as shown.

Note 5: Unless otherwise shown on the plans.

Note 6: The proposed slump shall be chosen by the Contractor. Concrete at the proposed slump shall be sufficiently workable to allow proper placement without harmful segregation, bleeding, or incomplete consolidation.

1006-3.01 **Design Criteria:** the second, third, and fourth paragraphs of the ADOT Standard Specifications are revised to read:

Air-entraining admixtures will be required for all classes of concrete placed at an elevation of 3,000 feet or above. The air content of the concrete mixture at the point of placement shall not be less than four percent nor more than seven percent by volume. Where freeze-thaw durability is of concern (such as in bridge decks, overlays, approach slabs, and barrier walls) and the potential for air loss is expected during placement, the range for acceptable air content, when sampled at the truck in accordance with Subsection 1006-7.02, shall be increased to not less than five percent nor more than eight percent. However, no air-entrainment will be required for minor precast structures, precast pipe, and precast, prestressed structural members supporting a concrete deck slab or impervious overlay. Also, no air-entrainment will be required for any precast items constructed using the dry pack or no-slump method.

For elevations below 3,000 feet, air-entraining admixtures may be used at the option of the Contractor. If air-entraining admixtures are used, the air content of the concrete mixture at the point of placement shall not exceed seven percent by volume.

Concrete that fails to conform to the air content requirements listed above for the respective elevation as determined by the Engineer, shall be rejected prior to placement.

1006-3.01 Design Criteria: the first and second sentences of the sixth paragraph of the ADOT Standard Specifications are revised to read:

The coarse aggregate size designation for Class S or Class B concrete shall be chosen by the Contractor and approved by the Engineer and shall conform to the size designation and grading requirements of AASHTO M 43. In choosing the size designation, the maximum size of coarse aggregate shall not be larger than one fifth of the narrowest dimension between the sides of adjacent forms, or two thirds of the minimum clear spacing between reinforcing bars, or two thirds of the minimum clear spacing between reinforcing bars and the sides of adjacent forms, or one third of the depth of the slab, whichever is least.

1006-3.01 Design Criteria: the first sentence of the seventh paragraph of the ADOT Standard Specifications is revised to read:

Coarse aggregate for Class P concrete used to construct Portland cement concrete pavement without load transfer dowels shall be separated into two or more stockpiles.

1006-3.02 Design Procedures: the first paragraph of the ADOT Standard Specifications is revised to read:

At least two weeks prior to the appropriate concreting operation, the Contractor shall furnish a mix design for each class of concrete and each strength of Class S concrete for review and approval. More than one mix design for each class of concrete and each strength of Class S concrete may be submitted for approval provided specific items and locations of intended uses accompany the mix design. The Contractor shall substantiate each mix design by furnishing test data and providing all details of the mixtures proposed for use. Mix designs, for other than precast or prestressed concrete, shall be prepared by or under the direction of, and signed by, a registered professional engineer, a NICET Level III or higher certified technician in the concrete subfield, a NRMCA Level 3 Certified Concrete Technologist, or an ACI certified Concrete Laboratory Testing Technician Level 2 or Grade II. Mix designs for precast or prestressed concrete shall be prepared by or under the direct supervision of, and signed by, either one of the individuals listed above or

a PCI Quality Control Technician/Inspector Level II or higher. Individuals preparing and submitting mix designs shall have experience in the development of mix designs and mix design testing for the respective type of concrete.

1006-3.02 Design Procedures: the second and third paragraphs of the ADOT Standard Specifications are revised to read:

The complete solid volume mix designs submitted for approval shall include all weights and volumes of all ingredients. The brand, type, and source of hydraulic cement and admixtures, the coarse aggregate size number designation, source of aggregates, the specific gravities of all ingredients, the proposed slump, the water/cementitious material ratio, a product code to identify the mix design, and the intended use of each mix design shall be an integral part of each mix design.

The use of new and previously used mix designs, and the requirements for trial batches, will be as required by ADOT Materials Policy and Procedure Directive No. 15, “Submittal and Approval of Portland Cement Concrete Mix Designs”.

1006-4.01 General Requirements: of the ADOT Standard Specifications is revised to read:

The Contractor may obtain concrete for each class of concrete and for each strength of Class S concrete from a source approved by the Engineer in lieu of establishing a batch plant at the project site.

For each class of concrete and each strength of Class S concrete, except for Class P concrete produced in a batch plant at the site and used exclusively for Class P work, the Contractor shall furnish a delivery ticket for each batch of concrete. The minimum information to be shown on each delivery ticket shall be the date, time batched, truck identification number, name or identification of batch plant, name of Contractor, name and location of project, the quantity of concrete, the batch weights/volumes or mix design product code, the amount of permissible additional water to meet the design water/cementitious material ratio, and the number of revolutions that the concrete has been mixed at mixing speed in a truck mixer. An authorized representative of the Contractor shall be responsible for each delivery ticket and shall sign each delivery ticket accepting the Contractor's responsibility for the concrete. The representative shall immediately furnish the delivery ticket to the Engineer.

When requested by the Engineer, the Contractor shall supply a separate record for each batch of concrete which shows the batch weight/volume of each individual ingredient.

1006-4.02(A) Hydraulic Cement: the last sentence of the first paragraph of the ADOT Standard Specifications is hereby deleted:

1006-4.03(A) General Requirements: the last sentence of the first paragraph of the ADOT Standard Specifications is revised to read:

Concrete may be mixed in a mobile mixer at the site for Class S or Class B concrete, provided written permission of the Engineer is granted.

1006-4.03(B) Mixing in a Stationary Mixer: the last sentence of the third paragraph of the ADOT Standard Specifications is revised to read:

The mixing time shall be not less than 60 seconds for one cubic yard and shall be increased 15 seconds for each additional cubic yard or fraction thereof for Class S or Class B concrete.

1006-4.03(C) Mixing in Truck Mixers: the first sentence of the last paragraph of the ADOT Standard Specifications is revised to read:

If additional mixing water is required to maintain the mix design water/cementitious material ratio, the concrete shall be mixed by a minimum of 30 revolutions of the drum at mixing speed after the water has been added, prior to discharge of any concrete for placement.

1006-4.03(D) Mixing in Mobile Mixers: of the ADOT Standard Specifications is revised to read:

Concrete mixing in mobile mixers for Class S or Class B concrete shall be performed in accordance with the requirements of AASHTO M 241.

1006-4.04 Consistency: the second paragraph of the ADOT Standard Specifications is revised to read:

The Contractor shall furnish Class S and Class B concrete having the slump shown on the approved mix design, with a permissible variation of ± one inch when the slump shown on the approved mix design is four inches or less, and a permissible variation of ± 1½ inches when the slump shown on the approved mix design is greater than four inches. However, when an approved high range water reducing chemical admixture (ASTM C 494, Type F or Type G) conforming to the requirements of Subsection 1006-2.04 is used, the permissible variation will be ± two inches, regardless of the slump shown on the approved mix design.

1006-5 Weather Limitations: the title of the ADOT Standard Specifications is revised to read:

1006-5 Concrete Temperature and Weather Limitations:

1006-5.01 General Requirements: of the ADOT Standard Specifications is revised to read:

The temperature of the concrete mixture immediately before placement shall not be less than 50 degrees F nor greater than 90 degrees F. Concrete that fails to conform to this temperature requirement shall be rejected prior to placement.

Under rainy conditions, placing of concrete shall be stopped before the quantity of surface water is sufficient to cause a flow or wash of the concrete surface or have a detrimental effect on the finished concrete and acceptance parameters.

Placing of concrete shall immediately cease if the hauling vehicles or any equipment or pedestrian traffic tracks mud on the prepared base or changes the allowable subgrade dimensional tolerances for Class P concrete and slabs placed on subgrade for Class S or Class B concrete.

1006-5.02 Hot Weather Concreting: of the ADOT Standard Specifications is revised to read:

Forms, subgrade, and reinforcing steel shall be sprinkled with cool water just prior to the placement of concrete.

Mix water may be cooled by refrigeration, liquid nitrogen, or well-crushed ice of a size that will melt completely during the mixing operation. If crushed ice is used, it shall be substituted for part of the mix water on a pound for pound basis.

1006-5.03 Cold Weather Concreting: of the ADOT Standard Specifications is revised to read:

Concrete shall not be placed on or against ice-coated forms, reinforcing steel, structural steel, conduits, or construction joints; nor on or against snow, ice, or frozen earth materials. Immediately prior to placing concrete, the temperature of forms, reinforcing steel, earthen material, or any other material that will come in contact with the freshly placed concrete shall be a minimum temperature of 40 degrees F. If artificial heat is used to adjust the temperature of the items that will come in contact with the freshly mixed concrete, the temperature of these items shall not exceed 10 degrees F greater than that of the concrete being placed.

Concrete operations shall be discontinued when a descending ambient temperature in the shade and away from artificial heat falls below 40 degrees F. Concrete operations shall not be resumed until an ascending ambient temperature in the shade and away from artificial heat exceeds 35 degrees F unless otherwise approved by the Engineer.

Mixing and placing concrete shall continue no later in any day than that time which will allow sufficient time to place and protect the concrete already poured before the ambient temperature drops to 35 degrees F.

Concrete shall be protected in a manner to maintain all concrete surface temperatures at not less than 50 degrees F for a period of 72 hours after placement and at not less than 40 degrees F for an additional 96 hours.

The Contractor may use equipment to heat the aggregates or water, or both, prior to mixing. If aggregates are heated, the minimum temperature of the heated aggregate shall be 60 degrees F and the aggregates shall have no chunks of ice or frozen aggregate present. Equipment used to heat the aggregates shall be such that consistent temperatures are obtained throughout the aggregate within each batch and from one batch to another. Water shall not be heated in excess of 150 degrees F unless the water is mixed with the aggregate prior to the addition of cement to the batch. During the heating or mixing process, cement shall not be added to water and aggregate combinations which exceed 100 degrees F.

When weather forecasts indicate a probability that ambient temperatures will fall below 35 degrees F during the placement or curing periods, the Contractor shall submit a cold weather concreting plan to the Engineer for approval prior to concrete placement. The cold weather concreting plan shall detail methods and equipment which will be used to ensure that the required concrete temperatures are maintained. The Contractor shall provide adequate cold weather protection in the form of insulation and/or heated enclosures to protect the concrete after placement. For bridge decks and suspended structures, the cold weather concreting plan shall

include protection measures for both the top and bottom surfaces of the concrete. This protection shall maintain concrete surface temperatures as specified above at all locations in the structure. When artificial heating is required, the heating units shall not locally heat or dry the surface of the concrete.

When a cold weather concreting plan is required, the Engineer may require concrete temperatures to be measured and continuously recorded by the use of temperature sensing devices during the entire curing period. The Contractor shall provide the temperature sensing devices and recording instruments. The Contractor shall install temperature sensing devices near the surface of the concrete at locations and depths designated by the Engineer. When concrete is placed on a bridge deck or suspended structure, both the bottom surface and the top surface shall be monitored with temperature sensing devices. Temperature sensing devices and recording instruments shall be approved by the Engineer. The Contractor shall continuously monitor the concrete temperature and provide the recorded data to the Engineer at any time upon request.

If the surface concrete temperature at any location in the structure falls below 35 degrees F during the curing period, the Engineer may direct the Contractor to core the areas in question at the locations indicated by the Engineer. The Contractor shall submit the cores to a petrographer for examination in accordance with ASTM C 856. Concrete damaged by frost, as determined by the petrographer, shall be removed and replaced at no additional cost to the Department. All costs associated with coring, transmittal of cores, and petrographic examination shall be borne by the Contractor regardless of the outcome of the petrographic examination.

The placing of concrete will not be permitted until the Engineer is satisfied that all the necessary protection equipment and materials are on hand at the site and in satisfactory working condition.

Concrete requiring cold weather protection shall have such protection removed at the end of the required curing period in such a manner that will permit a gradual drop in the concrete temperatures.

1006-7.01 **General:** the second paragraph of the ADOT Standard Specifications is revised to read:

Rejection of concrete will also occur due to insufficient compressive strength. Concrete compressive strength requirements consist of the specified strength which the concrete shall attain before various loads or stresses are applied and a minimum strength at 28 days.

1006-7.01 **General:** the last sentence of the third paragraph of the ADOT Standard Specifications is revised to read:

Sampling and testing for compressive strength will be performed on all classes of concrete furnished, including each strength specified on the project plans for Class S concrete.

1006-7.02 **Sampling and Testing of Concrete:** the first sentence of item (1) of the second paragraph of the ADOT Standard Specifications is revised to read:

(1) Concrete for Class S or Class B shall be sampled only once during discharge in the middle portion of the batch.

1006-7.02 Sampling and Testing of Concrete: the third paragraph of the ADOT Standard Specifications is revised to read:

Concrete pumped to facilitate placement will be sampled for acceptance at the final point of placement. Samples will be taken during continuous discharge of concrete that has been pumped beyond the pump hopper without interruption at the normal production rate. Where freeze-thaw durability is of concern (such as in bridge decks, overlays, approach slabs, and barrier walls), the concrete shall also be sampled at the truck to determine air loss through the pump. In accordance with Subsection 601-3.03(C), if the loss of air as measured between the supply truck and the point of placement exceeds two percent, the Contractor shall employ measures acceptable to the Engineer to reduce the loss of air to less than two percent. If sampling at the point of placement is not practical, as determined by the Engineer, or creates a safety concern, the concrete shall be sampled for acceptance at the truck. When acceptance sampling can only be performed at the truck, the acceptable range of air content of the supplied mix will be adjusted to not less than five percent nor more than eight percent in accordance with Subsection 1006-3.01.

1006-7.02 Sampling and Testing of Concrete: of the ADOT Standard Specifications is modified to add:

If approved by the Engineer, and unless otherwise specified, Arizona Test Method 318 may be used to estimate concrete strength by the maturity method. The maturity method shall not substitute for compressive strength acceptance testing (28-day test cylinder breaks). The Contractor shall submit a written request to the Engineer prior to using the maturity method. If its use is approved by the Engineer, the Contractor shall be responsible to develop the strength-maturity relationship and shall also be responsible to provide the maturity meter(s) and digital data loggers necessary, as well as performing all required testing, all at no additional cost to the Department.

1006-7.03(A) Class S and Class B Concrete: of the ADOT Standard Specifications is revised to read:

For Class S concrete with a compressive strength requirement less than 4000 psi, a sample of concrete for the required tests, as specified in Subsection 1006-7.02, will be taken on a daily basis for each 100 cubic yards, or fraction thereof, of continuously placed concrete from each batch plant. For Class S concrete with a compressive strength requirement equal to or greater than 4000 psi, a sample of concrete for the required tests, as specified in Subsection 1006-7.02, will be taken on a daily basis for each 50 cubic yards, or fraction thereof, of continuously placed concrete from each batch plant. For Class B concrete, a sample of concrete for the required tests, as specified in Subsection 1006-7.02, will be taken for each 100 cubic yards placed from each batch plant. For Class S or Class B concrete placed at elevations of 3,000 feet or above, air content testing shall be performed for each 50 cubic yards placed, regardless of the compressive strength requirement. An additional sample or samples for any of the required tests may be taken at an interval of less than the sampling frequency specified above, at the discretion of the Engineer, on any batch or load of concrete. A sample for the required tests on daily placements of 10 cubic yards or less may be taken at the discretion of the Engineer.

1006-7.03(B) Class E Concrete: of the ADOT Standard Specifications is revised to read:

1006-7.03(B) BLANK

1006-7.06(A) Class P Concrete: the fourth sentence of the second paragraph of the ADOT Standard Specifications is revised to read:

Cores must be obtained under the observation of an ADOT representative and delivered to the Engineer in time to allow complete testing within 48 days of placement. Testing shall be performed by the Department.

1006-7.06(B) Class S and Class B Concrete: the second paragraph of the ADOT Standard Specifications is revised to read:

Concrete failing to meet at least 85 percent of the 28-day compressive strength for specified strengths of 3,000 pounds per square inch and below, 90 percent for a specified strength of 3,500 pounds per square inch, or 95 percent for specified strengths of 4,000 pounds per square inch and above, or any concrete failing to meet the other requirements of Subsection 1006-7.01, will be rejected and removed at no additional cost to the Department and replaced with concrete which meets the specified requirements, unless the Contractor can submit evidence that will indicate to the Engineer that the strength and quality of the concrete is such that the concrete should be considered acceptable and be allowed to remain in place.

1006-7.06(B) Class S and Class B Concrete: the third sentence of the last paragraph of the ADOT Standard Specifications is revised to read:

All cores shall be obtained and tested in accordance with the requirements of Arizona Test Method 317. Testing shall be performed by the Department.

1006-7.06(C) Class E Concrete: of the ADOT Standard Specifications is revised to read:

1006-7.06(C) BLANK

SECTION 1011 JOINT MATERIALS

Joint Materials shall be in accordance with Section 1011 of the ADOT Standard Specifications except as modified herein.

1011-3 Joint Sealant (Hot-Poured): the title and text of the ADOT Standard Specifications is revised to read:

1011-3 Joint Sealant (Hot-Applied):

Joint sealant material, including asphalt-rubber sealants, shall be a hot-applied type, conforming to the requirements of ASTM D 6690, Type II or Type III. Joint sealant shall not contain any coal-tar materials.

The following requirement shall be added to the "Packaging and Package Marking" requirements of ASTM D 6690:

The minimum ambient temperature during application and ambient temperatures under various storage conditions shall be clearly marked on the container.

Certificates of Compliance conforming to the requirements of Subsection 106.05 shall be submitted.

1011-6.03 Semi-rigid, Closed-cell Polypropylene Foam, Preformed Expansion Joint Filler: is hereby added to the ADOT Standard Specifications:

Semi-rigid, closed-cell polypropylene foam, preformed expansion joint filler, shall conform to the requirements of ASTM D8139.

1011-8.03 Field Performance: of the Standard Specifications is revised to read:

The manufacturer of the joint sealant shall demonstrate satisfactory field performance in Arizona, or by NTPEP field evaluation, of less than one percent total failure (either within the material or the adhesive bond to the joint face) after one year of service, before the material shall be used.

SECTION 1013 BEARING PADS

Bearing pads shall be in accordance with Section 1013 of the ADOT Standard Specifications except as modified herein.

TABLE 1013-2: FABRICATION TOLERANCES: Item "7. Thickness" of the ADOT Standard Specifications is revised to read:

Table 1013-2
FABRICATION TOLERANCES

Parameters	**Tolerances**	
	(-)	(+)
7. Thickness Top and Bottom Cover Layer (if required)	0	1/8 inch

SECTION 1015 EPOXY MATERIALS

Epoxy Materials shall be in accordance with Section 1015 of the ADOT Standard Specifications except as modified herein.

1015-1 General Requirements: the first paragraph of the ADOT Standard Specifications is revised to read:

Certificates of Compliance, conforming to the requirements of Subsection 106.05, shall be submitted to the Engineer by the Contractor for any epoxy materials used on a specific project. Only those epoxy materials shown on the Department's Approved Products List (APL), or equal, will be allowed for use. Approved products may only be used in accordance with the limitations

stated in the manufacturer's instructions, the APL, and the International Code Council Evaluation Service (ICC-ES) evaluation report for the product, if applicable. Copies of the most current version of the APL are available on the internet from the ADOT Research Center, through its Product Evaluation Program.

1015-1.02 Directions for Use: the third paragraph of the ADOT Standard Specifications is revised to read:

Immediately prior to mixing, each component shall be thoroughly mixed with a paddle, unless otherwise specified. Separate paddles shall be used to stir each component.

1015-2 Epoxy Resin Based Anchoring Adhesive: the title and text of the ADOT Standard Specifications are revised to read:

1015-2 Epoxy Resin Based, Post-Installed, Anchoring Adhesive:

Epoxy resin based, post-installed, adhesive anchoring systems shall be used for bonding anchors and rebar dowels into hardened concrete or masonry. Applications shall be limited to horizontal and down hole orientations. Post-installed anchoring adhesive shall not be used in any overhead vertical application, or permanently sustained purely axial tension application.

The anchoring adhesive shall consist of a two component epoxy resin based formula that is packaged in a dual-cylinder cartridge that can automatically combine the constituents in the proper proportions. Manual proportioning of the components shall not be used for anchoring applications. The adhesive shall not be used beyond the expiration date shown on the packaging.

For horizontal applications where flow out of the anchoring hole is a problem, high viscosity or non-sag anchoring adhesives shall be used. Low and medium viscosity anchoring adhesives may be utilized in down holes which open upward. The product shall only be used for the application and limitations for which it was designed according to the manufacturer's product literature. Post-installed anchoring adhesives shall be installed in accordance with the manufacturer's printed installation instructions (MPII). Installation of adhesive anchors shall be performed by personnel trained to install adhesive anchors.

(A) Structural Applications:

Structural applications are defined as those requiring the anchoring adhesive system to develop a minimum tensile and shear strength resistance to an applied load. Post-installed anchoring adhesives shall have been tested in accordance with ICC-ES Acceptance Criteria for Post-Installed Adhesive Anchors in Concrete (AC308), which incorporates the requirements found in ACI 355.4. A current ICC-ES evaluation report for the anchoring adhesive shall be submitted to the Engineer, who will review the conditions of use listed in the report before it is approved for use on a project. The conditions of use include limitations on base material temperature since higher temperatures affect adhesive bond tension and shear load strength. The anchoring adhesive shall only be used for the broad category (un-cracked concrete, cracked concrete, or masonry) for which it has been designated in the ICC-ES report.

Horizontal applications where a component of the applied load will be in sustained tension shall be installed by an individual who has a current ACI/CRSI Adhesive Anchor Installer Certification.

(B) Load Transfer Dowel and Tie-Bar Applications:

Applications for load transfer dowels and tie-bars are defined as those required to transfer load across joints in concrete slabs, walls and other concrete and masonry members. Epoxy adhesive bonding material shall provide a minimum pullout resistance of 13,200 pounds when tested in accordance with ASTM E488. The anchors shall be installed, using the adhesive bonding material, in the concrete or masonry member in strict accordance with the manufacturer's instructions. The anchoring adhesive shall only be used for the broad category (un-cracked concrete, cracked concrete, or masonry) for which it has been designated in the manufacturer's product literature.

SECTION 1017 NONSHRINK GROUT MATERIALS

1017-1 **General Requirements:** the first paragraph of the Standard Specifications is revised to read:

Certificates of Compliance, conforming to the requirements of Subsection 106.05, shall be submitted to the Engineer by the Contractor for any nonshrink grout materials used on a specific project. Only nonshrink materials shown on the Department's Approved Products List (APL) will be allowed for use. Copies of the most current version of the APL are available on the internet from the ADOT Research Center, through its Product Evaluation Program. The nonshrink grout material must be approved for the use or application for which it is intended and shall meet the requirements of ASTM C1107, unless otherwise specified herein.

1017-4 **Nonshrink Grout Material Requirements:** the third and fourth paragraphs of the Standard Specifications are revised to read:

The compressive strength shall be determined in accordance with the requirements of ASTM C1107. The minimum compressive strength at seven days shall be 2,500 pounds per square inch and the minimum compressive strength at 28 days shall be 5,000 pounds per square inch. Nonshrink grouts with high early strength development as stated by the manufacturer will be tested for conformance to the manufacturer's claims. The compressive strength of nonshrink grout material at 28 days shall be equal to or greater than the 28 day compressive strength requirement of the concrete to be patched.

The expansion percent for the nonshrink grout material shall be determined in accordance with the requirements of ASTM C1107. The maximum expansion shall be 0.4 percent when measured at 3, 14, and 28 days. The percent shrinkage at 28 days shall be zero.

***Contract Forms are a binding part of**
Informal Bid Documents and Awarded Contract.*

CONTRACT FORMS LIST

Proposal	**P-1 to P-3**
Bidding Schedule	**BS-1 to BS-2**
Bid Bond	**BB-1**
Qualification & Certification	**QC-1 to QC-2**
Reference List	**RL-1**
Affidavit of Non-Collusion	**ANC-1**
Subcontractor Certification	**SC-1**
Checklist & Addenda Acknowledgment	**CK-1**
Contract	**C-1 to C-7**
Contract Performance Bond	**CPB-1**
Labor and Materials Bond	**LMB-1**
Contract Performance Warranty	**CPW-1**
IRS W-9 Form	**W-9**

PROPOSAL (P-1 to P-3)

TO THE GILA COUNTY PUBLIC WORKS DIVISION:

Gentlemen:

The following Proposal is made for **Bid No. 091120 - Rim Trail Bridge Replacement**, in the County of Gila in the State of Arizona.

The following Proposal is made on behalf of

_____

_____

_____

and no others. The Proposal is in all respects fair and is made without collusion on the part of any person, firm or corporation mentioned above, and no member or employee of Gila County is personally or financially interested, directly or indirectly, in the Proposal, or in any purchase or sale of any materials or supplies for the work to which it relates, or in any portion of the profits thereof.

The undersigned certifies that the approved Plans, Technical Specifications, General and Special Provisions and forms of Contract and Bond authorized by Gila County and constituting essential parts of this Proposal, have been carefully examined, and also that the site of the work has been personally inspected. The undersigned declares that the amount and nature of the work to be done is understood and that at no time will misunderstanding of the Plans, Technical Specifications, General Provisions, Special Provisions, or conditions to be overcome, be plead. On the basis of Plans, Technical Specifications, General and Special Provisions, each Addendum (if any) and the forms of Contract and Bond proposed for use, the undersigned proposes to furnish all the necessary equipment, materials, machinery, tools, apparatus, and other means of construction, and labor, to do all the work in the manner specified and to finish the entire project within the time hereinafter proposed, and to accept, as full compensation therefore, the sum of the various products obtained by multiplying each unit price, herein bid for the work or materials on the attached Bidding Schedule, by the quantity thereof actually incorporated in the complete project, as determined by the Public Works Director. The undersigned understands that the quantities mentioned herein are approximate only and are subject to increase or decrease and hereby proposes to perform all quantities of work as either increased or decreased, in accordance with the provisions of the Specifications, at the unit price bid in the attached Bidding Schedule.

The undersigned further proposes to perform all extra work that may be required on the basis provided in the Specifications and to give such work personal attention and to secure economical performance.

Proposal continued…

The undersigned further proposes to execute the Contract Agreement and furnish satisfactory Bonds within ten (10) calendar days from the date of Notice of Award, time being of the essence. The undersigned further proposes to begin work as specified in the contract attached hereto, and to complete the work **within two hundred eighty (280) Calendar Days from the commencement date as specified on the Notice to Proceed,** and maintain at all times a Payment Bond and Performance, Labor and Material Bonds, approved by the Public Works Director, in an amount equal to one hundred (100) percent of the total bid. These bonds shall serve not only to guarantee the completion of the work on the part of the undersigned, but also to guarantee the excellence of both workmanship and material and the payment of all obligations incurred, until the work is finally accepted and the provisions of the Plans, Standard Specifications and Special Provisions fulfilled.

A Proposal Guaranty in the amount and character named in the Call for Bids is enclosed amounting to not less than ten (10) percent of the total bid, which Proposal Guaranty is submitted as a guaranty of the good faith of the bidder and that the bidder will enter into written contract, as provided, to do the work, if successful in securing the award thereof, and it is hereby agreed that if at any time other than as provided in the Proposal requirements and conditions the undersigned should withdraw this Proposal, or if the Proposal is accepted and there should be failure on the part of the undersigned to execute the Contract and furnish satisfactory Bond as herein provided, Gila County, in either of such events, shall be entitled and is hereby given the right to retain the said Proposal Guaranty as liquidated damages.

If by a Corporation:

(SEAL)

Corporate Name: _____

Corporate Address: _____

Incorporated under the laws of the State of : _____

By (Signature): _____ **Date:** _____

President: _____

Secretary: _____

Treasurer: _____

Proposal continued…

If by a Firm or Partnership:

Firm or Partnership Name: _____

Firm or Partnership Address: _____

By (Signature): _____ **Date:** _____

Name and Address of Each Member: _____

_____

_____

_____

_____

If by an Individual:

Signature: _____ **Date:** _____

BIDDING SCHEDULE (BS-1 to BS-2)

RIM TRAIL BRIDGE REPLACEMENT
GILA COUNTY, ARIZONA

We agree to provide all work and material necessary to complete the project as shown on the plans and specifications for the following Contract Price:

Firm Name: _____

TOTAL CONTRACT PRICE, for the sum of $ _____

WRITTEN TOTAL CONTRACT PRICE

_____**Dollars**

and _____**Cents.**

This Contract Price is based upon the Bidder's quantities and unit prices tabulated on Page BS-2 of the Proposal. The Bidder agrees that the Contract Price will be payment in full for all work shown on the plans and described in the Contract Documents.

Any authorized increases or decreases to the work shall be authorized by Change Order. The Contract Price shall be increased or decreased by the amount of work or material increased or decreased at the following Bid Unit Prices.

BS-2

Item No.	Item Description	Unit	Quan.	Unit Price	Total Price
2020047	REMOVAL OF SIGNS	EACH	2		
2020053	REMOVE (WOOD POST)	EACH	2		
2020057	REMOVE AND SALVAGE (GATE)	EACH	2		
2020065	REMOVAL OF TREES (GREATER THAN 12" DIAMETER)	EACH	1		
2020071	REMOVE GUARD RAIL	L.FT.	88		
2020101	REMOVE FENCE	L.FT.	185		
2020115	REMOVE TREE (12" DIAMETER OR LESS)	EACH	6		
2050001	GRADING ROADWAY FOR PAVEMENT	SQ.YD.	464		
3030022	AGGREGATE BASE, CLASS 2	CU.YD.	65		
4090003	ASPHALTIC CONCRETE (MISCELLANEOUS STRUCTURAL)	TON	36		
7010005	MAINTENANCE AND PROTECTION OF TRAFFIC	L.SUM	1		
8030103	DECOMPOSED GRANITE	SQ.YD.	243		
8101016	EROSION CONTROL (ROCK MULCH) (GRADATION C)	CU.YD.	21		
8101021	EROSION CONTROL (WATTLES) (9")	L.FT.	390		
9010001	MOBILIZATION	L.SUM	1		
9020002	CHAIN LINK FENCE, TYPE 1 (48")	L.FT.	10		
9020251	RECONSTRUCT FENCE GATE FROM SALVAGE	EACH	2		
9030008	FENCE (SEE DETAIL B)	L.FT.	157		
9031001	TEMPORARY FENCE	L.FT.	165		
9240010	FORCE ACCOUNT WORK (UNFORSEEN CONDITIONS)	L.SUM	1		
9250001	CONST. SURVEYING AND LAYOUT	L.SUM	1		
2020002	REMOVE BRIDGE	L.SUM	1		
2030501	STRUCTURAL EXCAVATION	CU.YD.	90		
2030506	STRUCTURE BACKFILL	CU.YD.	30		
6010004	STRUCTURAL CONCRETE (CLASS S) (F'C = 4,000)	CU.YD.	30		
6010005	STRUCTURAL CONCRETE (CLASS S) (F'C = 4,500)	CU.YD.	20		
6011363	APPROACH SLAB (SPECIAL DETAIL)	SQ.FT.	140		
6040001	STRUCTURAL STEEL	LB.	17,140		
6050012	REINFORCING STEEL (EPOXY COATED)	LB.	8,582		
9050701	W-BEAM & POST RAILING (TXDOT TYPE T631LS)	L.FT.	100		
9130005	RIPRAP (GABIONS)	CU.YD.	51		
				Total Base Bid	

GILA COUNTY

SURETY (BID) BOND (BB-1)

(Penalty of this bond must not be less than 10% of the bid amount)

KNOW ALL MEN BY THESE PRESENTS, that we, the undersigned _____,

as Principal, hereinafter called the Principal, and _____,

a corporation duly organized under the laws of the State of _____,

as Surety, hereinafter called the Surety, holding a certificate of authority to transact surety business in this State issued by the Director of the Department of Insurance, are held and firmly bound unto Gila County as Obligee, hereinafter called the Obligee, in the sum of ten percent (10%) of the amount bid, submitted by Principal to Gila County for the work described below, for the payment of which sum well and truly to be made, the said Principal and the said Surety bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal is herewith submitting its proposal for:

BID NO. 091120 - Rim Trail Bridge Replacement

NOW THEREFORE, if the Obligee, acting by and through its Public Works Director, accepts the proposal of the Principal and the Principal shall enter into contract with the Obligee in accordance with the terms of such proposal, and give such bonds and certificates of insurance as may be specified in the contract documents with good and sufficient surety for the faithful performance of such contract and for the prompt payment of labor and material furnished in the prosecution thereof, or in the event of the failure of the Principal to enter into such contract and give such bonds and certificates of insurance, if the Principal shall pay to the Obligee the difference not to exceed the penalty of the bond between the amount specified in the proposal and such larger amount for which the Obligee may in good faith contract with another party to perform the work covered by the proposal then this obligation is void. Otherwise, it remains in full force and effect provided, however, that this bond is executed pursuant to the provisions of ARS '34-201, and all liabilities on this bond shall be determined in accordance with the provisions of the section to the extent as if it were copied at length herein.

IN WITNESS WHEREOF, we hereunto set our hands and seals:

Principal	**Surety**
By	**By Attorney-in-Fact**
Title	**Address, Attorney-in-Fact** **Subscribed and sworn to before me** **this ____ day of _____, 20____**
	My commission expires: _____
	Notary Public

GILA COUNTY
QUALIFICATION AND CERTIFICATION FORM (QC-1 TO QC-2)

Purpose

This exhibit shall serve as a requirement to enable the evaluation team to assess the qualifications of Contractors under consideration for final award.

The information may or may not be a determining factor in award.

Bid Number 091120 - RIM TRAIL BRIDGE REPLACEMENT

The applicant submitting this Bid warrants the following:

1. Name, Address, and Telephone Number of Principal Contractor:

   _____

   _____

   _____

2. Has Contractor (under its present or any previous name) ever failed to complete a contract? _____Yes _____No. If "Yes, give details, including the date, the contracting agency, and the reasons Contractor failed to perform, in the narrative part of this Contract.

3. Has Contractor (under its present or any previous name) ever been disbarred or prohibited from competing for a contract? _____Yes _____No. If "Yes", give details, including the date, the contracting agency, the reasons for the Contractors disqualification, and whether this disqualification remains in effect, in the narrative part of this Contract.

4. Has a contracting agency ever terminated a contract for cause with Contractor (under your firm's present or any previous name)? _____Yes _____No. If "Yes", give details including the date, the contracting agency, and the reasons Contractor was terminated, in the narrative part of this Contract.

5. Contractor must also provide at least the following information:
   a. A brief history of the Contractors Firm.
   b. A Cost Proposal shall be submitted on the Bid Schedule, attached hereon and made a full part of this contract by this reference.
   c. A list of previous and current customers, which are considered identical or similar to the Scope of Work described herein; shall be submitted on the Reference List, attached hereon and made a full part of this contract by this reference.

d. List of any subcontractors (if applicable) to be used in performing the service must accompany the Proposal. The subcontractors Arizona ROC, contact name and phone # must be included.
e. List the specific qualifications the Contractor has in supplying the specified services.
f. Gila County reserves the right to request additional information.

6. Contractor Experience Modifier (e-mod) Rating in Arizona: _____

A method the National Council on Compensation Insurance (NCCI) uses to measure a business' computed loss ratio and determine a factor, which when multiplied by premium, can reward policyholders with lower losses. E-mod rate may be a determining factor in bid award.

7. Current Arizona Contractor License Number: _____

_____

Signature of Authorized Representative

_____

Printed Name

_____

Title

GILA COUNTY
REFERENCE LIST (RL-1)

These references are required to enable the evaluation team to assess the qualifications of the Contractor under consideration for final award. The information may be a determining factor in award.

References
Please list a minimum of four (4) references for projects of similar size and scope as this Invitation for Bids during the past twelve (12) months, in or as close to Gila County as possible.

1. **Company:** _____
   Contact: _____
   Phone: _____
   Address: _____

2. **Company:** _____
   Contact: _____
   Phone: _____
   Address: _____

3. **Company:** _____
   Contact: _____
   Phone: _____
   Address: _____

4. **Company:** _____
   Contact: _____
   Phone: _____
   Address: _____

_____
Name of Business

_____
Signature of Authorized Representative

_____
Title

AFFIDAVIT BY CONTRACTOR (ANC-1)

CERTIFYING THAT THERE WAS NO COLLUSION IN BIDDING FOR CONTRACT

STATE OF ARIZONA)
)ss
COUNTY OF:)

_____
(Name of Individual)
being first duly sworn, deposes and says:

That he is _____
(Title)
of_____
and
(Name of Business)

That he is properly prequalified by Gila County for bidding on **BID NO. 091120 - Rim Trail Bridge Replacement** and,

That pursuant to Section 112 (C) of Title 23 USC, he certifies as follows:

That neither he nor anyone associated with the said _____

_____
(Name of Business)

has, directly or indirectly entered into any agreement, participated in any collusion or otherwise taken any action in restraint of free competitive bidding in connection with the above mentioned project.

_____
Name of Business

_____
By

_____
Title

Subscribed and sworn to before me this _____ day of _____, 20_____.

_____ **My Commission expires:**
Notary Public

GILA COUNTY

CERTIFICATION:
INTENTIONS CONCERNING SUBCONTRACTING (SC-1)

At the time of the submission of **Invitation for Bid No. 091120,** my intention concerning subcontracting a portion of the work is as indicated below.

In indicating that it is my intention to subcontract a portion of the work, this will acknowledge that such **subcontractors will be identified and approved by the County prior to award of contract**; and that documentation, such as copies of letters, requests for quotations, etc., substantiating the actions taken and the responses to such actions is on file and available for review.

Yes ☐ it is my intention to subcontract a portion of the work.

No ☐ it is not my intention to subcontract a portion of the work.

_____

Name of Business

_____

Signature of Authorized Representative

_____

Title

BIDDERS CHECKLIST & RECEIPT OF ADDENDA (CK-1)

NOTICE IS HEREBY GIVEN that all Bid Documents shall be completed and/or executed and submitted with this bid. If bidder fails to complete and/or execute any portion of the Bid Documents, this bid will be determined to be "non-responsive" and rejected.

CHECKLIST:

REQUIRED DOCUMENT	COMPLETED AND EXECUTED
Proposal	_____
Bidding Schedule	_____
Surety (Bid) Bond	_____
Qualification & Certification Form	_____
Reference List	_____
Affidavit of Non-Collusion	_____
Subcontractor Certification	_____
Bidders Checklist & Addenda Acknowledgment	_____

ACKNOWLEDGMENT OF RECEIPT OF ADDENDA:

	#1	#2	#3	#4	#5
Initials and Date	_____	_____	_____	_____	_____

Signed and dated this _____ day of_____, 2020.

_____
CONTRACTOR:

_____
BY:

Each complete bid shall be sealed in an envelope and bearing the following statement on the outside of the envelope: Bid No. 091120 - Rim Trail Bridge Replacement. **All complete bids shall be filed at Gila County Procurement**, Copper Building Conference Room, 1400 E. Ash St., Globe, AZ 85501, before Tuesday November, 17, 2020 at 4pm.

GILA COUNTY

CONTRACT NO. 091120 (C-1 TO C-7)

THIS AGREEMENT, made and entered into this _____ day of _____, **2020**, by and between Gila County, a political subdivision of the State of Arizona, party of the first part, hereinafter designated the **OWNER**, and _____ of the City of _____, County of _____, State of Arizona, party of the second part, hereinafter designated the **CONTRACTOR**.

WITNESSETH: That the said **Contractor**, for and in consideration of the sum to be paid him by the said **Owner**, in the manner and at the time hereinafter provided, and of the other covenants and agreements herein contained, and under the penalties expressed in the bond hereto attached, hereby agrees, for himself, his heirs, administrators, successors, and assigns as follows:

ARTICLE I - SCOPE OF WORK: The **Contractor** shall furnish any and all materials, labor, construction equipment, and services, required for performing all work for construction for **Bid No. 091120 - Rim Trail Bridge Replacement,** in accordance with the plans and these specifications, and to completely and totally construct the same and install the material herein for the **Owner**, in a good and workmanlike and substantial manner and to the satisfaction of the **Owner** through its Engineers and under the direction and supervision of the Engineer, or his properly authorized agents and strictly pursuant to and in conformity with the Specifications prepared by the Engineers for the **Owner**, and with such modifications of the same and other documents that may be made by the **Owner** through the Engineer, or his properly authorized agents, as provided herein. Once the Bid has been awarded the bid number 091120 will become the Contract Number.

ARTICLE II - CONTRACT DOCUMENTS: The attached "Call for Bids", "Special Provisions", "Proposal", "Bidding Schedule", "Bid Bond", "Qualification & Certification Forms", "Reference List", "Affidavit of Non-Collusion", "Subcontractor Certification", "Employment Laws Acknowledgment", "Checklist & Addenda Acknowledgment", "Performance Bond", "Labor and Materials Bond", "Contract Performance Bond", and Plans thereto, if any, are by this reference made a part of this Contract to the same extent as if set forth herein in full. In the event of any conflict or any inconsistency in the documents, controlling weight shall be assigned in the following order: the Contract; the Special Provisions; all other documents. The Contract is considered invalid unless signed by the Gila County Board of Supervisors.

ARTICLE III – SAFETY AND LOSS CONTROL: The Gila County Safety and Loss Control booklet must be read and signed by all working at the job site.

Contract continued…

ARTICLE IV – INDEMNIFICATION CLAUSE: The Contractor agrees to indemnify and save harmless the County of Gila, its officers, agents and employees, and any jurisdiction or agency issuing permits for any work included in the project, their officers, agents and employees, hereinafter referred to as indemnitee, from all suits and claims, including attorney's fees and cost of litigation, actions, loss, damage, expense, cost or claims of any character or any nature arising out of the work done in fulfillment of the terms of this Contract or on account of any act, claim or amount arising or recovered under workers' compensation law or arising out of the failure of the Contractor to conform to any statutes, ordinances, regulation, law or court decree. It is agreed that the Contractor will be responsible for primary loss investigation, defense and judgment costs where this contract of indemnity applies. In consideration of the award of this contract, the Contractor agrees to waive all rights of subrogation against the County, its officers, officials, agents and employees for losses arising from the work performed by the Contractor for the County.

ARTICLE V – INSURANCE REQUIREMENTS: Contractor and subcontractors shall procure and maintain until all of their obligations have been discharged, including any warranty periods under this Contract are satisfied, insurance against claims for injury to persons or damage to property which may arise from or in connection with the performance of the work hereunder by the Contractor, his agents, representatives, employees or subcontractors.

The insurance requirements herein are minimum requirements for this Contract and in no way limit the indemnity covenants contained in this Contract.

The County in no way warrants that the minimum limits contained herein are sufficient to protect the Contractor from liabilities that might arise out of the performance of the work under this Contract by the Contractor, his agents, representatives, employees, or subcontractors. Contractor is free to purchase such additional insurance as may be determined necessary.

A. **MINIMUM SCOPE AND LIMITS OF INSURANCE -** Contractor shall provide coverage with limits of liability not less than those stated below:

1. **Commercial General Liability – Occurrence Form**
   Policy shall include bodily injury, property damage, broad form contractual liability and XCU coverage.
   - General Aggregate
     $2,000,000
   - Products – Completed Operations Aggregate $1,000,000
   - Personal and Advertising Injury
     $1,000,000
   - Each Occurrence
     $1,000,000

Contract continued…

a. The policy shall be endorsed to include the following additional insured language: **"The County of Gila shall be named as an additional insured with respect to liability arising out of the activities performed by, or on behalf of the Contractor".**

2. **Automobile Liability**

Bodily injury and property damage for any owned, hired, and non-owned vehicles used in the performance of this Contract.

Combined Single Limit (CSL)	$1,000,000

a. The policy shall be endorsed to include the following additional insured language: **"The County of Gila shall be named as an additional insured with respect to liability arising out of the activities performed by, or on behalf of the Contractor, including automobiles owned, leased, hired or borrowed by the Contractor".**

3. **Worker's Compensation and Employers' Liability**

Workers' Compensation	Statutory
Employers' Liability	
Each Accident	$100,000
Disease – Each Employee	$100,000
Disease – Policy Limit	$500,000

a. Policy shall contain a **waiver of subrogation** against the County of Gila.

B. **ADDITIONAL INSURANCE REQUIREMENTS:** The policies shall include, or be endorsed to include, the following provisions:

1. On insurance policies where the County of Gila is named as an additional insured, the County of Gila shall be an additional insured to the full limits of liability purchased by the Contractor even if those limits of liability are in excess of those required by this Contract.
2. The Contractor's insurance coverage shall be primary insurance and non-contributory with respect to all other available sources.
3. Coverage provided by the Contractor shall not be limited to the liability assumed under the indemnification provisions of this Contract.

C. **NOTICE OF CANCELLATION:** Each insurance policy required by the insurance provisions of this Contract shall provide the required coverage and shall not be suspended, voided, canceled, reduced in coverage or endorsed to lower limits except after thirty (30) days prior written notice has been given to the County. Such notice shall be sent directly to **Betty Hurst, Contracts Administrator, 1400 E. Ash St., Globe, AZ 85501** and shall be sent by certified mail, return receipt requested.

Contract continued…

D. **ACCEPTABILITY OF INSURERS:** Insurance is to be placed with insurers duly licensed or approved unlicensed companies in the state of Arizona and with an "A.M. Best" rating of not less than B+ VI. The County in no way warrants that the above-required minimum insurer rating is sufficient to protect the Contractor from potential insurer insolvency.

E. **VERIFICATION OF COVERAGE:** Contractor shall furnish the County with certificates of insurance (ACORD form or equivalent approved by the County) as required by this Contract. The certificates for each insurance policy are to be signed by a person authorized by that insurer to bind coverage on its behalf.

All certificates and endorsements are to be received and approved by the County before work commences. Each insurance policy required by this Contract must be in effect at or prior to commencement of work under this Contract and remain in effect for the duration of the project. Failure to maintain the insurance policies as required by this Contract or to provide evidence of renewal is a material breach of contract.

All certificates required by this Contract shall be sent directly to **Betty Hurst, Contracts Administrator, 1400 E. Ash St., Globe, AZ 85501**. The County project/contract number and project description shall be noted on the certificate of insurance. The County reserves the right to require complete, certified copies of all insurance policies required by this Contract at any time**.**

F. **SUBCONTRACTORS:** Contractors' certificate(s) shall include all subcontractors as additional insureds under its policies **or** Contractor shall furnish to the County separate certificates and endorsements for each subcontractor. All coverage's for subcontractors shall be subject to the minimum requirements identified above.

G. **APPROVAL:** Any modification or variation from the insurance requirements in this Contract shall be made by the County Attorney, whose decision shall be final. Such action will not require a formal Contract amendment, but may be made by administrative action.

ARTICLE VI - TIME OF COMPLETION: The Contractor further covenants and agrees, at his own proper cost and expense, to do all work and furnish all materials, labor, construction equipment, and services for performing all of the work for construction of said improvements and to completely construct the same and install the material therein, as called for by this agreement free and clear of all claims, liens, and charges whatsoever, in the manner and under the conditions specified within the time, or times, stated in the Proposal.

Work on this project shall start within **no later than ten (10) Days of the Notice To Proceed,** and shall be completed within the following limits:

Contract continued…

SCHEDULE:

For construction in the contract documents, the project shall be completed within **280 Calendar Days of the commencement date as specified on the Notice To Proceed**.

It is expressly understood and agreed that in case of failure on the part of the Contractor, for any reason, except with the written consent of the Engineer, to complete the work to the satisfaction of the Engineer and within the aforesaid time limits, the Owner may deduct from any money due, or which may become due the Contractor, as liquidated damages, an amount as fixed by the following schedule:

WORK ITEM	DAILY CHARGE PER CALENDAR DAY
All work not complete within the above specified time after start of work.	**$490.00**

If no money shall be due the Contractor, the Owner shall have a cause of action to recover against the Contractor in a court of competent jurisdiction, liquidated damages as fixed by the above schedule; said deduction to be made, or said sum to be recovered, not as a penalty, but as liquidated damages; provided, however, that upon receipt of written notice from the Contractor, of the existence of causes, as herein provided, over which said Contractor has no control and which must delay the completion of the said work or any delay occasioned by the Owner, the Engineer may extend the period hereinafter specified for the completion of said work in accordance with the specifications and in such case, the Contractor shall become liable for said liquidated damages for delays commencing from date said extension period shall expire.

ARTICLE VII - CANCELLATION: This agreement is subject to cancellation pursuant to **A.R.S. §38-511** and **GENERAL PROVISION 108-10 DEFAULT AND TERMINATION OF CONTRACT.**

ARTICLE VIII - PAYMENTS: The Contractor shall make an estimate of the work performed during the preceding month and submit the same to the Engineer for checking. On or before ***thirty (30) days*** after the certified and approved estimate of the work is received by the Owner, the Owner shall pay to the Contractor ninety percent (90%) of the value of said work in place, as approved by the Engineer. The balance of ten percent (10%) of the estimate shall be retained by the Owner until the time of final payment and acceptance of said work, as per **A.R.S. §34-221(A)(2).**

Contract continued…

ARTICLE IX – LAWS AND ORDINANCES: This agreement shall be enforced under the laws of the State of Arizona. The Contractor shall maintain in current status all Federal, State, and Local licenses and permits required for the operation of the business conducted by the Contractor.

The **Contractor** shall comply with the applicable provisions of the Americans with Disabilities Act **(Public Law 101-336, 42 U.S.C. 12101-12213)** and applicable Federal regulations under the Act.

ARTICLE X – LEGAL ARIZONA WORKERS ACT COMPLIANCE: Contractor hereby warrants that it will at all times during the term of this Contract comply with all federal immigration laws applicable to Contractor's employment of its employees, and with the requirements of A.R.S. § 23-214 (A) (together the "State and Federal Immigration Laws"). Contractor shall further ensure that each subcontractor who performs any work for Contractor under this contract likewise complies with the State and Federal Immigration Laws.

County shall have the right at any time to inspect the books and records of Contractor and any subcontractor in order to verify such party's compliance with the State and Federal Immigration Laws.

Any breach of Contractor's or any subcontractor's warranty of compliance with the State and Federal Immigration Laws, or of any other provision of this section, shall be deemed to be a material breach of this Contract subjecting Contractor to penalties up to and including suspension or termination of this Contract. If the breach is by a subcontractor, and the subcontract is suspended or terminated as a result, Contractor shall be required to take such steps as may be necessary to either self-perform the services that would have been provided under the subcontract or retain a replacement subcontractor, (subject to County approval if MWBE preferences apply) as soon as possible so as not to delay project completion.

Contractor shall advise each subcontractor of County's rights, and the subcontractor's obligations, under this Article by including a provision in each subcontract substantially in the following form:

"Subcontractor hereby warrants that it will at all times during the term of this contract comply with all federal immigration laws applicable to Subcontractor's employees, and with the requirements of A.R.S. §23-214 (A). Subcontractor further agrees that County may inspect the Subcontractor's books and records to insure that Subcontractor is in compliance with these requirements. Any breach of this paragraph by Subcontractor will be deemed to be a material breach of this contract subjecting Subcontractor to penalties up to and including suspension or termination of this contract."

ARTICLE XI – ISRAEL BOYCOTT CERTIFICATION: Contractor hereby certifies that it is not currently engaged in and will not, for the duration of this agreement, engage in a boycott of Israel as defined by A.R.S. § 35-393.01. Violation of this certification by Contractor may result in action by County up to and including termination of this agreement.

Any additional costs attributable directly or indirectly to remedial action under this Article shall be the responsibility of Contractor. In the event that remedial action under this Article results in delay

to one or more tasks on the critical path of Contractor's approved construction or critical milestones schedule, such period of delay shall be deemed excusable delay for which Contractor shall be entitled to an extension of time, but not costs.

IN WITNESS WHEREOF, three (3) identical counterparts of this contract, each of which shall for all purposes be deemed an original thereof, have been duly executed by the parties hereinabove named, on the date and year first above written.

In return for the performance of this Contract by the **Contractor**, the **Owner** agrees to pay the amount of _$_____ **INCLUDING ALL APPLICABLE TAXES** through a payment schedule as described in the Contract documents and as may be modified and executed by change orders and by final quantities.

The **Contractor** agrees that this contract, as awarded, is for the following work, and understands that payment for the total work will be made on the basis of the indicated amount(s), as bid in the Proposal and attached Bidding Schedule for:

BID NO. 091120 - RIM TRAIL BRIDGE REPLACEMENT

OWNER: **CONTRACTOR:**

GILA COUNTY BOARD OF SUPERVISORS

_____ _____

Woody Cline, Chairman, Board of Supervisors **Contractor Signature**

_____

Print Name

ATTEST: _____

Witness (If Contractor is Individual)

_____

Marian Sheppard, Clerk of the Board

APPROVED AS TO FORM:

_____

Gila County Attorney's Office

STATUTORY PERFORMANCE BOND (CPB-1)

PURSUANT TO TITLE 34, CHAPTER 2, ARTICLE 2 OF THE ARIZONA REVISED STATUTES

(PENALTY OF THIS BOND MUST BE 100% OF CONTRACT AMOUNT)

KNOW ALL MEN BY THESE PRESENTS:

That,_____

_____, (hereinafter called the Principal), as Principal,

and_____

(hereinafter called Surety), a corporation duly organized and existing the laws of the State of _____with its principal office in the city of _____ holding a certificate of authority to transact surety business in Arizona issued by the Director of the Department of Insurance, as Surety, are held and firmly bound unto Gila County (hereinafter called the Obligee) in the amount of (100% OF CONTRACT AMOUNT)_____ dollars ($_____), for the payment whereof, the said Principal and Surety bind themselves, and their heirs, administrator, executors, successors, and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has agreed to enter into a certain contract with the Obligee for: **Bid No. 091120 - RIM TRAIL BRIDGE REPLACEMENT,** which contract is hereby referred to and made a part hereof as fully and to the same extent as if copied at length herein.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION IS SUCH, that if the said Principal shall faithfully perform and fulfill all the undertakings, covenants, terms, conditions and agreements of said contract during the original term of said contract and any extension thereof, with or without notice to the Surety, and during the life of any guaranty required under the contract, and shall also perform and fulfill all the undertakings, covenants, terms, conditions, and agreements of any and all duly authorized modifications of said contract that may hereafter be made, notice of which modifications to the Surety being hereby waived; then the above obligation shall be void, otherwise to remain in full force and effect;

PROVIDED, HOWEVER, that this bond is executed pursuant to the provisions of Title 34, Chapter 2, Article 2, of the Arizona Revised Statutes, and all liabilities on this bond shall be determined in accordance with the provisions of said Title, Chapter and Article, so the extent as if they were copied at length herein.

The prevailing party in a suit on this bond shall recover as a part of the judgment such reasonable attorneys' fees as may be fixed by a judge of the court.

Witness our hands this _____ day of _____, 2020.

_____

Pri**ncipal** **Seal**

_____ _____

Surety **Seal** **By:**

_____ _____

Agency of Record **By:**

_____ _____

Arizona Countersignature **Agency Address**

_____

Address

_____

Phone Number

STATUTORY LABOR AND MATERIALS BOND (LMB-1)

PURSANT TO TITLE 34, CHAPTER 2, ARTICLE 2 OF THE ARIZONA REVISED STATUTES

(PENALTY OF THIS BOND MUST BE 100% OF CONTRACT AMOUNT)

KNOW ALL MEN BY THESE PRESENTS:

That,_____(hereinafter called the

Principal), as Principal, and _____

(hereinafter called Surety), a corporation duly organized and existing the laws of the State of _____ with its principal office in the city of _____ holding a certificate of authority to transact surety business in Arizona issued by the Director of the Department of Insurance, as Surety, are held and firmly bound unto Gila County (hereinafter called the Obligee) in the amount of (100% of Contract Amount)_____ dollars ($_____), for the payment whereof, the said Principal and Surety bind themselves, and their heirs, administrator, executors, successors, and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has agreed to enter into a certain contract with the Obligee for: **Bid No. 091120 - RIM TRAIL BRIDGE REPLACEMENT,** which contract is hereby referred to and made a part hereof as fully and to the same extent as if copied at length herein.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION IS SUCH, that if the said Principal shall faithfully perform and fulfill all the undertakings, covenants, terms, conditions and agreements of said contract during the original term of said contract and any extension thereof, with or without notice to the Surety, and during the life of any guaranty required under the contract, and shall also perform and fulfill all the undertakings, covenants, terms, conditions, and agreements of any and all duly authorized modifications of said contract that may hereafter be made, notice of which modifications to the Surety being hereby waived; then the above obligation shall be void, otherwise to remain in full force and effect;

PROVIDED, HOWEVER, that this bond is executed pursuant to the provisions of Title 34, Chapter 2, Article 2, of the Arizona Revised Statutes, and all liabilities on this bond shall be determined in accordance with the provisions of said Title, Chapter and Article, so the extent as if they were copied at length herein.

The prevailing party in a suit on this bond shall recover as a part of the judgment such reasonable attorneys' fees as may be fixed by a judge of the court.

Witness our hands this _____ day of _____, 2020.

_____

Pri**ncipal** **Seal**

_____ _____

Surety **Seal** **By:**

_____ _____

Agency of Record **By:**

_____ _____

Arizona Countersignature **Agency Address**

_____

Address

_____

Phone Number

GILA COUNTY
CONTRACT PERFORMANCE WARRANTY (CPW-1)

I, _____, representing

_____ (company name)

do hereby warranty the work performed for the:

BID NO. 091120 - RIM TRAIL BRIDGE REPLACEMENT,

for a period of **two (2) years** from completion of said work.

Said work shall be free from defects which would cause the work not to perform in its intended manner.

_____

(Officer, Partner, Owner) **Date**

Form **W-9**
(Rev. October 2018)
Department of the Treasury
Internal Revenue Service

Request for Taxpayer Identification Number and Certification

► Go to *www.irs.gov/FormW9* for instructions and the latest information.

Give Form to the requester. Do not send to the IRS.

Print or type. See Specific Instructions on page 3.

1 Name (as shown on your income tax return). Name is required on this line; do not leave this line blank.

2 Business name/disregarded entity name, if different from above

3 Check appropriate box for federal tax classification of the person whose name is entered on line 1. Check only **one** of the following seven boxes.

☐ Individual/sole proprietor or single-member LLC ☐ C Corporation ☐ S Corporation ☐ Partnership ☐ Trust/estate

☐ Limited liability company. Enter the tax classification (C=C corporation, S=S corporation, P=Partnership) ►

Note: Check the appropriate box in the line above for the tax classification of the single-member owner. Do not check LLC if the LLC is classified as a single-member LLC that is disregarded from the owner unless the owner of the LLC is another LLC that is **not** disregarded from the owner for U.S. federal tax purposes. Otherwise, a single-member LLC that is disregarded from the owner should check the appropriate box for the tax classification of its owner.

☐ Other (see instructions) ►

4 Exemptions (codes apply only to certain entities, not individuals; see instructions on page 3):

Exempt payee code (if any)

Exemption from FATCA reporting code (if any)

(Applies to accounts maintained outside the U.S.)

5 Address (number, street, and apt. or suite no.) See instructions.

Requester's name and address (optional)

6 City, state, and ZIP code

7 List account number(s) here (optional)

Part I Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. The TIN provided must match the name given on line 1 to avoid backup withholding. For individuals, this is generally your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the instructions for Part I, later. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN*, later.

Note: If the account is in more than one name, see the instructions for line 1. Also see *What Name and Number To Give the Requester* for guidelines on whose number to enter.

Social security number

___ – ___ – ____

or

Employer identification number

__ – _____

Part II Certification

Under penalties of perjury, I certify that:

1. The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me); and
2. I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding; and
3. I am a U.S. citizen or other U.S. person (defined below); and
4. The FATCA code(s) entered on this form (if any) indicating that I am exempt from FATCA reporting is correct.

Certification instructions. You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions for Part II, later.

Sign Here **Signature of U.S. person** ► **Date** ►

General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

Future developments. For the latest information about developments related to Form W-9 and its instructions, such as legislation enacted after they were published, go to *www.irs.gov/FormW9*.

Purpose of Form

An individual or entity (Form W-9 requester) who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) which may be your social security number (SSN), individual taxpayer identification number (ITIN), adoption taxpayer identification number (ATIN), or employer identification number (EIN), to report on an information return the amount paid to you, or other amount reportable on an information return. Examples of information returns include, but are not limited to, the following.

- Form 1099-INT (interest earned or paid)
- Form 1099-DIV (dividends, including those from stocks or mutual funds)
- Form 1099-MISC (various types of income, prizes, awards, or gross proceeds)
- Form 1099-B (stock or mutual fund sales and certain other transactions by brokers)
- Form 1099-S (proceeds from real estate transactions)
- Form 1099-K (merchant card and third party network transactions)
- Form 1098 (home mortgage interest), 1098-E (student loan interest), 1098-T (tuition)
- Form 1099-C (canceled debt)
- Form 1099-A (acquisition or abandonment of secured property)

Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN.

If you do not return Form W-9 to the requester with a TIN, you might be subject to backup withholding. See What is backup withholding, *later.*